BROADBAND EXPANSION GRANT APPLICATION
For Fiscal Year 2022

Primary Applicant (Name and Address):	Applications MUST be UPLOADED to ERF via the Commission's website, http://psc.wi.gov/apps35/ERF_upload/content/mymenu.aspx. Refer to section 2.3 for detailed instructions. Applications are due and MUST be uploaded to ERF no later than: **March 17, 2022** at 4:00pm (16:00) Central Time. **Late applications will not be accepted.**
Pierce Pepin Cooperative Services W7725 US Hwy 10 Ellsworth, WI 54011	Contact for further information: PSCStatebroadbandoffice@wisconsin.gov
	Date: December 1, 2021

The Public Service Commission of Wisconsin is seeking applications for Broadband Expansion Grants. The Commission may award one or more grants during Fiscal Year 2022 to public and private entities that meet the eligibility requirements set forth in Wis. Stat. § 196.504. This grant round will be funded with bond proceeds authorized by the Wisconsin Building Commission pursuant to Wis. Stat. § 13.48(30). As such, successful applicants are subject to the requirements of Wis. Stat. § 13.48(30). Successful applicants will demonstrate a clear and achievable plan to improve broadband communications services in one or more underserved areas in the State.

Applicant Certification: In signing this application, the undersigned verifies under penalty of perjury that the Applicant and its employees and agents have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition with respect to this application; that no attempt has been made to induce any other person or firm to submit or not to submit an application; that this application has been independently arrived at without collusion with any other proposer, competitor or potential competitor; that this application has not been knowingly disclosed prior to the opening of applications to any other applicant or competitor; that all of the responses and representations of Applicant in this application are true and correct to the best of the undersigned's knowledge, information, and belief; and that Applicant agrees to, accepts, and will comply with all of the terms and conditions respecting this application and any award of a broadband expansion grant as may be established in a grant award Agreement.

Name of Authorized Representative (Type or Print)	Title	Phone ( )
Nate Boettcher	President & CEO	715-273-2403
Signature of Authorized Representative 	Date March 16, 2022	

SUMMARY OF GRANT APPLICATION

Primary Applicant Name Pierce Pepin Cooperative Services	Amount of Broadband Grant Request (round to nearest dollar) $1,864,098
Federal Employer Identification No. 39-0539446	Amount of Matching Funds Pledged (round to nearest dollar) $1,242,732
Contact Name and Title Nate Boettcher, President & CEO	Total Cost of Proposed Project (round to nearest dollar) $3,106,830
Telephone Number (715) 273-2403	Project Name Esdaile 2
E-mail Address(es) nboettcher@piercepepin.coop	Type of Proposed Broadband Service (FTTH, Cable, DSL, etc.) FTTH
Grant Manager, if different than Primary Applicant N/A	Type of Proposed Project (Last-mile, Middle-Mile, backbone, other) Last Mile
Grant Manager Contact Name N/A	Grant Manager Email Address and Telephone Number N/A

If the application proposes a public-private partnership, list the names, addresses, and FEINs of the partner companies or organizations

Town of El Paso (FEIN: 39-6023788)
Attn: Sherri Heise
N5325 450th St
Ellsworth, WI 54011
Ph: 715-273-4811

Pierce County EDC (FEIN: 37-1222441)
Attn: Joe Folsom
410 St. 3rd St.
River Falls, WI 54022
Ph: 715-425-3881

Brief Project Description (2 sentences)

This project will provide Gigabit symmetrical speeds to western portion of the Town of El Paso, Salem, and Hartland in Pierce County. This project will connect 215 locations that are largely underserved.

Maximum Proposed Download Transmission Speed 1000 Mbps (Gigabit)	Maximum Proposed Upload Transmission Speed 1000 Mbps (Gigabit)
Minimum Proposed Download Speed to Customer Location 100 Mbps	Minimum Proposed Upload Transmission Speed to Customer Location 100 Mbps
County or Counties served by this project Pierce County	Community or Communities served by this project Town of El Paso, Town of Salem, Town of Hartland

List of the broadband service providers, if any, currently serving the area the applicant proposes to serve Viasat, Nexterra, HughesNet, AT&T, CenturyLink, Hiawatha Broadband, and Bevcomm	
Does proposed project serve an *unserved* area of the State, as defined in Section 1.4 of the application instruction? (yes/no) Yes	Is the Applicant certified as a Broadband Forward! Community or Telecommuter Forward! Community, or does the grant project propose to serve a Broadband Forward! Community or Telecommuter Forward! Community? (yes/no) No
For last mile projects or component the expected number of Business Locations that will have access to the improved broadband service (i.e., total business locations passed or with new service access). 8	For last mile projects or components the expected number of Residential Locations that will have access to the improved broadband service (i.e., total residential locations passed or with new service access). 207
Of the improved business locations, how many locations are *unserved*? 8	Of the improved residential locations, how many are *unserved*? 185
For providers that are eligible telecommunications carriers will the proposed broadband service be available to Lifeline customers? (yes/no) Yes	Are there any programs available for low-income households to access low-cost service or discounts? (yes/no) Yes
Is the internet service provider currently participating in the Emergency Broadband Benefit Program? (yes/no) Yes (application pending)	Is the internet service provider currently participating in the Department of Public Instruction and CESA purchasing's Digital Learning Bridge? (yes/no) No
Did the internet service provider participate in the Public Service Commission's voluntary Broadband Coverage Data Collection in 2021? (yes/no) Yes	

Summary of Project Budget

FY22 Broadband Expansion Grant Application

Budget & Income Summary

Please complete this form using Microsoft Excel. A PDF copy must be attached to your application as page four. In addition, this form must also be uploaded to ERF in Excel format.

Grant Summary

Grant Applicant:	Project:
Pierce Pepin Cooperative Services	Esdaile 2

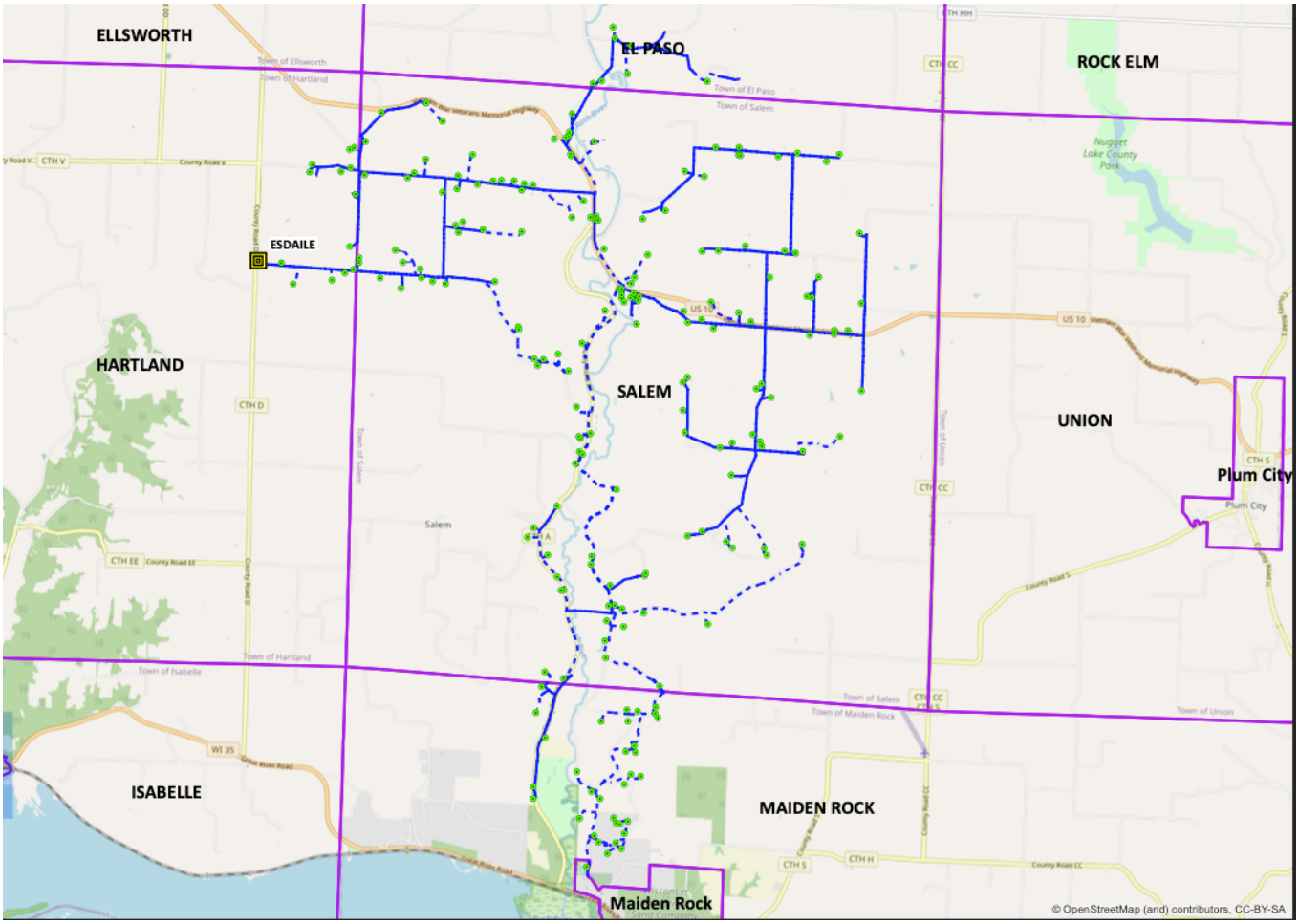
Budget

Line:	Description / Category:	Grant Funds:	Match:	Total:
1	Contractual, Consultant Fees	$ 1,120,055.00	$ 746,703.00	$ 1,866,758.00
2	Equipment	$ 733,423.00	$ 488,949.00	$ 1,222,372.00
3	Supplies	$ -	$ -	$ -
4	Labor (Salary, Fringe)	$ 7,920.00	$ 5,280.00	$ 13,200.00
5	Permitting, Licensing Fees	$ 1,200.00	$ 800.00	$ 2,000.00
6	Travel	$ -	$ -	$ -
7	Other	$ 1,500.00	$ 1,000.00	$ 2,500.00
	Total:	$ 1,864,098.00	$ 1,242,732.00	$ 3,106,830.00
		40.0% match requested		

Pledged Contributions

#:	Entity:	Entity Type:	Pledge Type:	Pledge:
1	Town of El Paso	Partner	Cash	$ 37,314.00
2	Pierce Pepin Cooperative Services	Applicant	Cash	$ 1,205,418.00
3	Pierce County Economic Development Corporation	Partner	In-Kind	$ -
4				
5				
6				
7				
8				
9				
10				
			Total:	$ 1,242,732.00

Project Map



Note: A spatial file of the project area map will be provided to the PSC as well.

Executive Summary

Pierce Pepin Cooperative Services (PPCS) is a member-owned electric cooperative, dedicated to helping its members Live Better®. In the 1930's this meant providing electricity to rural areas, today this means bringing rural broadband connectivity. Nearly 90 years after rural areas had been left behind with electricity, we've repeated the same mistake with rural broadband until now.

In 2021, PPCS launched SwiftCurrent Connect, a wholly owned subsidiary to provide fiber to the home services for 5,500 homes and businesses. The PPCS board set a lofty goal of building over 800 miles of fiber by 2025. In the Spring of 2021, the WI Public Service Commission awarded two grants to PPCS to connect 475 services. PPCS utilize this foundation to expand its presence and pass by 1,500 homes and build 175 miles. Last Fall, PPCS was awarded funding to connect 2,400 homes and build 466 miles of fiber. The proposed application takes the next step in building fiber in western Wisconsin by connecting 215 locations in an area where the terrain and density is challenging.

Our application is supported by a public-private partnership with the Town of El Paso and the Pierce County Economic Development Corporation. Over the past couple of years, PPCS has listened to its members about the need for broadband. Several advocacy groups have formed and certainly a lot of grassroots efforts to expand broadband. PPCS staff has worked closely with townships, Wisconsin counties and most importantly our members.

For many people, this is a beautiful area to drive through in the Fall when leaves are changing colors or to visit the Rush River especially while luring trout. It's not an area where there is a tremendous amount of population and because of that it's difficult to build and to justify the per mile cost of building broadband which is why no other provider is serving with reliable wired high-speed broadband. It's also not a good candidate for other technologies because of the topography. This is a densely wooded area with coulees that make it impossible for satellite and fixed wireless. With those challenges, the residents of this area still do not want to be left behind and they should be provided the same opportunities as larger communities.

This project requests a total of $1,864,098 from the Wisconsin Public Service Commission Broadband Grant program. This amount is 60% of the total project costs with the remaining $1,242,732 to be provided by PPCS and the Town of El Paso. The funds that are made available by the PSC are a critical link in getting reliable and affordable high-speed broadband throughout Wisconsin, including western Wisconsin. The state of Wisconsin has a tremendous opportunity to continue ensuring that every Wisconsinite has access to broadband, and we are thankful for the opportunity to apply.

Upon a successful selection by the WI PSC, the project will kick off in the Fall of 2022 with project planning and any make-ready engineering work that needs to be completed. Construction will begin in the Spring of 2023 with the goal of beginning service drops by the Fall of 2023 and final completion of the project in the Spring of 2024. PPCS has selected a primary contractor to work on our current projects and we anticipate the availability of this contractor to continue through next Fall and continue our buildout of fiber into 2023.

This project represents the spirit of why public service grants are necessary and important to ensure 100% connectivity to high-speed broadband for all Wisconsinites. With the PSCs support we can take on this challenge and accomplish another piece of this puzzle.

3.0 Application Narrative

3.2.1 Applicant identification and contact information

a. The name and address of the entity applying for the grant, and the mailing address, telephone number and e-mail address of one or more contact persons representing the applicant.

Pierce Pepin Cooperative Services
W7725 US Hwy 10
Ellsworth, WI 54011

Primary Contact:
Nate Boettcher, President & CEO
W7725 US Hwy 10
Ellsworth, WI 54011
1-715-273-4355
nboettcher@piercepepin.coop

b. If the application proposes a public-private partnership, the identity and contact information for all application partners.

Town of El Paso
Attn: Sherri Heise, Town Clerk
N5325 450th St.
Ellsworth, WI 54011
Ph: 715-273-4811
E-Mail: elpasoclerk@gmail.com

Pierce County EDC
Attn: Joe Folsom
410 St. 3rd St.
River Falls, WI 54022
Ph: 715-425-3881
E-Mail: joe@pcedc.com

Copies of the partnership agreements are contained in Exhibits A and B. Pierce County has provided a letter of broadband support shown in Exhibit C.

c. The application must show that the applicant is an organization, a telecommunications utility, or a city, village, town, or county that has established a legal partnership or joint venture arrangement with an otherwise qualified organization or telecommunications utility, and as such meets the eligibility requirements set forth in Wis. Stat. § 196.504(1).

Pierce Pepin Cooperative Services, herein "PPCS", is a not-for-profit cooperative, organized in the State of Wisconsin, County of Pierce, Town of Trimbelle and meets the eligibility requirements of Wis. Stat. § 196.504(1). PPCS was first incorporated in 1937 as Pierce County Rural Electric Cooperative, the name was later changed to Pierce Pepin Cooperative Services in 1999.

3.2.2 Description of the project

a. A static map and description of the area of the State that will be affected by the proposed project.

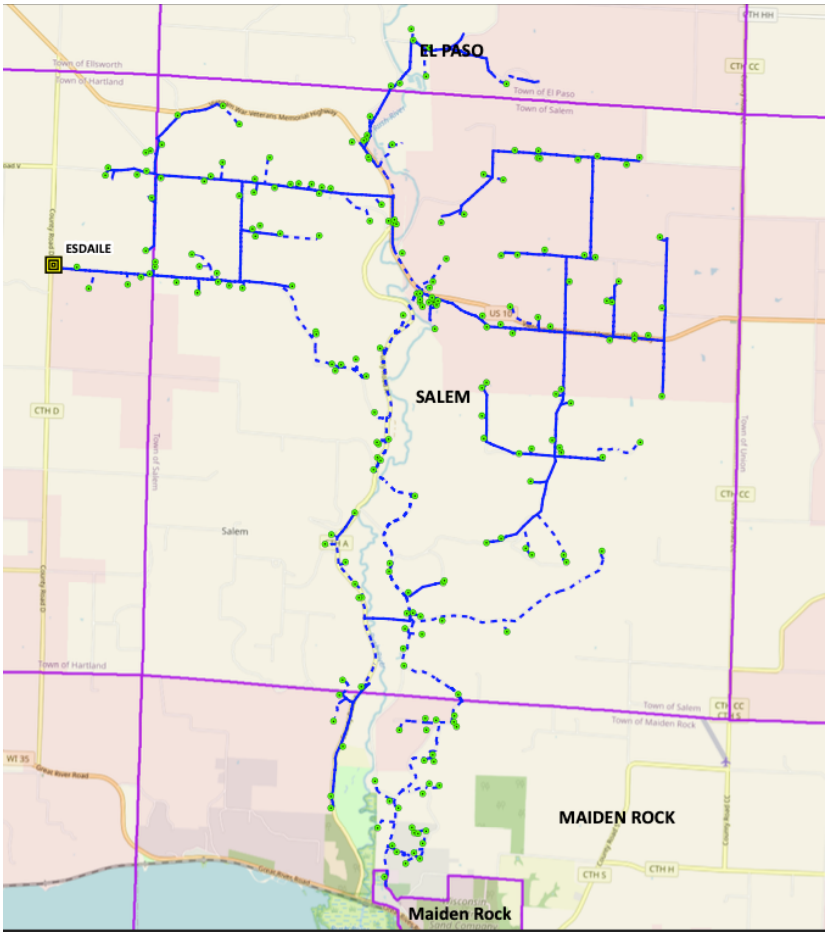
This is a second phase of our Esdaile project which is being constructed in 2022 under the ARPA grant. This project will extend service along highway 10 and to the south along County Road A. This project extends to the northern portion of Maiden Rock which sits along highway 35 alongside the Mississippi River. This project will construct 59 miles of fiber optic line through the towns of El Paso,

Hartland, and Salem. This project area is a diverse area but lacks customer density. The project will serve 215 locations, but at density rate of less of 3.91 customers per mile. This project fits the purpose of infrastructure funds because of its high cost to build, low density and lack of suitability for other types of service.

b. If the project area lies within a census block designated as served on the PSC Broadband Map, provide additional documentation to demonstrate the actual broadband service that is available in the proposed project area.

Surveys were conducted with the areas that were considered served by the FCC data. The primary provider in this area is CenturyLink which advertises 10/1 Mbps and 80/10 Mbps. In half of the completed surveys, respondents noted service is too expensive or is in such poor quality it's not worth paying for. The remaining surveys indicated speeds of between 1.20 – 1.43 Mbps download to .38 - .61 Mbps upload speeds. 100% of the survey respondents indicated they would subscriber to a fiber optic service is available to them.

The surveys were primarily collected in the areas noted as served. Note this area is primarily served by CenturyLink DSL. Upgrades to DSLAMS in this area is limited.



No surveys indicated they were using any of the fixed wireless services or satellite. This terrain is characterized by coulees which includes the Rush River that flows into the Mississippi River. To give you a sense of the terrain, look at the following images taken by Google Street View on County Rd A:

The terrain is not conducive to fixed wireless or satellite because of the topography and dense tree cover. Based on the analysis and provided speed tests, there is not 100% coverage of event 25/3 Mbps service let alone 100/100Mbps service which is the minimum that will be provided by this project. The project is area is not reliably served by any provider and in this case, the only viable option is a wireline option to achieve the desired broadband speeds.

One resident commented, *"If a better service existed, I wouldn't be interested in a new service. When you have no service, you're just hoping someone will come in and provide a reliable service."* Symmetrical service is critical for those who participate in web conferences, transferring files, and uploading documents to online services. Many of the providers claiming to offer high-speed broadband offer 1/5th of their download speed in upload capabilities.

FCC Chair Jessica Rosenworcel stated in her confirmation hearing, *"The current maps that the FCC is using have "a whole lot" of flaws that systematically overstate coverage and as a result, there are areas in the country where we just assumed service was, but people on the ground will tell you, no, it's not here. So, we haven't been always sending our support structures and our support systems to the right places as a result of those flawed maps."*

The speed tests and the people that live in this area will tell a different story than the mapping of data. If there was available and reliable service in this area, there wouldn't be residents asking for better service. We ask the PSC to strongly consider actual speed test results and poor FCC mapping that is well established as flawed and incomplete.

c. An explanation of how the proposed project will increase broadband access. Include information about the: Potential and expected number of households served, including number of unserved and underserved locations. Potential and expected number of businesses served, including number of unserved and underserved locations. Expected number of seasonal residents and tourists served. Estimated download and upload speed of the broadband service packages available for purchase.

There are 215 locations that will be served because of this project. We estimate there are approximately 8 business locations in this application, however in many cases residential addresses include many home-based businesses that are not always visibly present. As noted in the surveys that were returned, the availability and cost of service is a major barrier. This project solves two of those issues. We believe service take rates will be at least 50% due to lack of other providers and affordability.

Service offerings will provide Gigabit symmetrical service (1000/1000 Mbps) with the possibility of offering 5 Gigabit services in the future. Service plans offered include a 100/100 Mbps plan. Plans range from $69.95 to $124.95 with optional phone service available as well.

This project area includes the Rush River which is used as a trout stream. This area also includes a winter ice sculpture area which brings a tremendous number of visitors each year to see natural ice formations from an underground spring. There is also other farm to table businesses in this area. We expect that better service will enable this area to continue to promote their services.

d. A statement whether the proposed project is targeting the "last mile," "middle mile," or backbone portion of the broadband infrastructure.

This project will provide last mile service.

e. A description of the broadband service to be provided, including estimated download and upload speeds, whether the speed is based on dedicated or shared bandwidth, and the technology that will be used. This description may be illustrated by a map or schematic diagram, as appropriate.

Packages	*Download Speed*	*Upload Speed*
Gigabit	*1,000 Mbps*	*1,000 Mbps*
Ultra	*250 Mbps*	*250 Mbps*
Advanced	*100 Mbps*	*100 Mbps*
Qualified Income	*50 Mbps*	*50 Mbps*
Voice Service	*Local + Long Distance Included*	*Local + Long Distance Included*

*Qualified income plans utilize qualifications based on LIHEAP based programs. PPCS has a pending application for Affordable Connectivity Program which will provide $30 discount.

At minimum, this project provides 100/100 Mbps symmetrical service to every home and business in the proposed application area. PPCS is the sole owner of all network equipment and is responsible for all maintenance and upgrade of the equipment. PPCS will also provide local support and service to customers. The outside plant fiber network will be underground and aerial construction that generally follows an existing electric distribution network. The core fiber transmission will primarily utilize 144 count fiber utilizing a distributed tap model.

Network Architecture and Design

Distributed tap networks are appropriate for rural networks and reduces the amount of fiber to serve rural areas especially in situations where long distances need to be covered. In addition, for most rural areas, the lack of density will not dramatically change which means the tap architecture serves the purpose today and into the future. This is an example of cost-saving measures that allow the PPCS to build more fiber for less investment.

PPCS provides services utilizing Passive Optical Networking (PON) architecture. Internet service tiers will include offerings of symmetrical 100/100 Mbps, 250/250 Mbps and 1/1 Gbps, also expressed as 1000/1000 Mbps. It should be noted existing service by other providers in this area largely do not provide synchronous service. All locations will have low latency access and scalability for the future. This project meets the needs of the future, not just increasing speeds or providing a stopgap option. The outside plant fiber optic network is designed to support all current versions of PON network technology, including:

XGS-PON supporting 10 Gbps downstream and upstream (Current Focus)
NG-PON2 supporting 80 Gbps downstream and upstream. (Future Availability as Needed)
These technologies are supported without the need for any outside plant construction or modification. Future expectations include vendors development of 100 Gbps PON technology that would be compatible with the fiber optic network.

PPCS works in partnership with Conexon, who specializes in working with electric cooperatives to design, install, activate, and maintain Fiber to the Home (FTTH) networks. Conexon's established relationships with existing telecom service providers allows for real world network metrics, documented later, to establish baseline metrics for the network build to be undertaken. Based on the metrics provided by Conexon from their 5 years of experience and over 30,000 miles of network

design, achievement of Gigabit symmetrical service is currently in production using this architecture. Distributed Optical Tap architecture for last mile fiber build is utilized.

- PON design limit of 24 optical tap ports per PON leg
- 86.45% utilization of optical tap ports per PON leg
- 70% penetration of data service over a 5-year period

Note: The terms homes, subscriber, Optical Network Terminal (ONT), and "tap port" are generally interchangeable in reference to the network or network build in this document. All terms typically indicated a fiber termination point which exists to provide network access to a single end subscriber, home, small business, or other physical location.

A PON leg is defined as a single fiber optic strand of glass leaving the telecommunications hut, also referenced as a fiber hut, to provide last mile connectivity to a shared group of homes or businesses with a designed maximum of 32 serviceable locations. Due to the fixed port configuration of a distributed tap architecture where taps come in 2, 4, and 8 port version, it is generally difficult to design a network that fully utilizes a maximum of 32 optical splits. Conexon design specifications dictate a maximum of 24 tap ports per PON leg to accommodate future tap deployment if new homes dictate.

The overall network architecture not only takes advantage of the latest technology but also allows future scalability as both premises and data speeds increase. The use of fiber optic cable does is not limited by capacity of the cable and electronics can be upgraded over time. For this application, the proposed technology and build will be more than sufficient to serve 100% connectivity of every home.

f. For middle mile projects: Identify last mile broadband service providers that will connect to the middle mile facility.

Not Applicable

g. A schedule by which the applicant intends to complete the components of the proposed project. The project period is up to 24 months.

Milestone Events	Project Period
Project Kickoff (Assumes mid to late summer 2022 award)	October 2022
Network Design, Construction Planning, Make Ready Engineering	October 2022 – December 2022
Make Ready Construction	January 2023 – March 2023
Main Line Construction Build	May 2023 – October 2023
Fiber Drops / Home Installs	October 2023 – November 2023
Project close out	April 2024

3.2.3 Itemized Budget

a. In addition to the Summary of Project Budget that is included as page 3, applicants should include a price list or quote for any equipment the applicant intends to purchase, including capital expenditures. The application should also indicate whether any facilities involved would be owned, rented, or leased.

Exhibit G includes a bill of materials. The entire project and plant will be owned by PPCS. Pricing is subject to signed non-disclosure agreements; however, pricing verification can be provided to the PSC under separate cover if redacted.

Category	Description	Cost	Additional Notes
Contractual, Consultant	Mainline Construction, Drop Construction, Design, Project Management Oversight, Consultant Work, Splicing	$1,866,759	Includes home install costs, splicing, fiber construction units, and all consulting assistance with project management, oversight, design, etc.
Equipment	Electronics for Hut	$45,824	Additional electronics support GPON network
	Construction Materials	$1,222,372	Construction materials, fiber, strand, conduit, splice cases, pedestals, etc.
Labor	PPCS Salaries for Project	$13,200	Fiber technician, project manager, network operations manager
Permitting, Licensing Fees	Various state, local and county fees, including road crossing permits	$2,000	
Other	Community enrichment	$2,500	Educational programs, outreach, training, and assistance programs to get residents connected.

The budget is based on building 59 miles of fiber with 31 miles of fiber being built underground and 28 miles being built overhead. This area has low density at 3.91 locations per mile The average cost per mile is $52,615 and the cost per home is $14,438. We recognize the challenges of this area which also explains the lack of providers willing to serve. The use of electric infrastructure brings the per mile construction cost down to a rate of $14,440 per mile. If this project were entirely underground, it would increase the total overall cost by approximately $448,000. In addition, there has been an upward trend in material and labor cost associated with recent inflation data. Contracted labor accounts for $1.866 million of the total costs. This includes such things as mainline construction labor, splicing, and drop crews. PPCS plans to utilize some of its own labor which makes up $13,200 of the project costs. Materials make up $1.222 million in total costs. This includes conduit, fiber, vaults, pedestals, and miscellaneous materials for construction. This project will use 144-ct fiber to ensure future expansion and availability will be available in the area and to provide future growth to other service areas. Permit, easement, and application costs are estimated at $2,000. The remaining $2,500 is to be used for outreach and educational programs, along with digital literacy programs that may be offered in coordination with the towns served.

b. The application must show that the grant, if awarded, will not subsidize the expenses of a telecommunications provider or the monthly bills of telecommunications customers. For purposes of this grant program, subsidize means a contribution to the operating costs, including profit, of the telecommunications provider.

The project will not be used to subsidize any expenses of the provider or PPCS customers. All project expenses will go directly to support the construction, fiber, and electronics used to deliver service.

c. The application must show that the grant funds requested will be used for the sole purpose of constructing broadband infrastructure in the underserved areas covered by the application. Construction of broadband infrastructure may include any of the following:

- Project planning that takes place during the performance period.
- Obtaining construction permits.
- Construction of facilities, including construction of both "middle mile" and "last mile" infrastructure.
- Installation and testing of the broadband service.

The total project budget includes labor for construction and installation, network design and planning, easement/application work, and drops to the premise. Please note, the project budget does not include any work to upgrade existing facilities such as power poles, improving clearances, or right of way maintenance work such as brush clearing, tree trimming, etc.

3.2.4 Priority factors supporting the application

a. **Matching funds**. A description of the matching funds the applicant will invest in the proposed project, if any. For each element, indicate the type of match (cash, salary expense, or in-kind contribution). If the application is submitted by a partnership, identify the partner responsible for providing each element of the proposed matching funds. *Note: The requirement for this information is satisfied via inclusion of the completed Funding Statement as page 4 of the application.*

- If available, provide documentation to support an offer of matching funds (minutes of a town board meeting, a letter from a prospective customer or local government official, etc.).
- Matching funds contributions must be a firm commitment of funding to the project. Contributions that vary based on the amount of actual sales, customer contributions, or other criteria will not be given weight.

The budget summary is included.

Exhibit A includes the Town of El Paso resolution for $37,314. Exhibit B includes the in-kind contribution from Pierce County Economic Development Corporation.

b. **Public-private partnerships.** If the public-private partnership is memorialized in a joint venture agreement or other writing, provide a copy of that agreement. If the partnership has not been reduced to a written agreement, provide a short description of the management role, financial commitment, or other contribution to the project for each participating partner.
   - In scoring this element, information regarding active engagement of diverse communities in the planning, permitting, or marketing of the project will be given weight as well.

Pierce County Economic Development Corporation has provided a letter of support and partnership for this project. The Pierce County EDC has been a driving force in creating awareness around the lack of broadband. They have worked closely with several towns and the county encourage the adoption of the Broadband Forward designation. They have worked closely with grassroots groups such as Western Wisconsin Needs Broadband and Pierce County Grassroots Organizing which has worked closely with communities on broadband issues. The Pierce County EDC has provided in-kind contributions for this project and will continue to help provide education and awareness for this project.

In addition, we've included a letter of support from Pierce County. Pierce County is currently working on a program that may assist with broadband development in the future, but they were not ready in time for this grant. The Pierce County letter of support is provided in Exhibit C.

The Town of El Paso has provided the matching funds and a resolution confirming their partnership with PPCS. PPCS has been in contact with the other towns that are impacted by this project. They have stated their public support and may in the future contribute funds to future buildouts.

c. **Existing broadband service**. A list of the broadband service providers, if any, currently serving the area the applicant proposes to serve. In scoring this element, the following factors will be taken into account:
   - The degree to which the proposed project avoids duplicating existing broadband infrastructure.
   - The application of a wireless broadband service provider proposing significant overlap with existing broadband service in addition to service to an unserved area will not be given priority consideration.
   - Provide a list of all landline broadband service providers (DSL, cable or fiber to the home) and fixed wireless broadband service providers that overlap the footprint of the proposed broadband project.
   - If known, provide an estimate of the customers within the proposed footprint that are served by competing landline and fixed wireless broadband service providers, and the download/upload speeds offered by those competing service providers.
   - Provide a list of mobile wireless broadband service providers that overlap the footprint of the proposed project.
   - If known, provide an estimate of the customers within the proposed footprint that are served by competing mobile wireless broadband service providers, and

the download/upload speeds offered by those competing service providers. (The presence of existing mobile wireless providers does not contribute to or affect the evaluation of existing broadband service in the project area for purposes of priority consideration, but provides a more complete picture of the broadband options available to residents.)

- For middle mile projects, describe the unserved and underserved areas that the middle mile route will transit. In scoring this element, the following factors will be taken into account:
    - The number of unserved and underserved service locations that could potentially connect through the proposed middle mile route.
    - The degree to which the middle mile route will reduce the cost of extending fiber to the premises broadband service to business and residential service locations in an unserved or underserved area.
    - The degree to which the proposed middle mile route avoids duplicating existing and planned fiber to the premises broadband infrastructure.

As noted earlier, there are several different carriers that provide service in the project area, however not all carriers are able to provide service to the entire project or are limited by the technology they offer. This area also has a high density of tree canopy and elevation changes which makes fixed wireless a poor choice for service.

Provider	Reported Speed	Type	**Customer Speeds**
AT&T	10/1 Mbps	Fixed Wireless	N/A
Nexterra	50/50 Mbps	Fixed Wireless	N/A
T-Mobile	25/3 Mbps	Fixed Wireless	N/A
HughesNet	25/3 Mbps	Satellite	N/A
Viasat	100/3 Mbps	Satellite	N/A
CenturyLink	10/.75 Mbps	DSL	1.43 / .68 Mbps
AT&T	6/1 Mbps	DSL	2.8/2.2 Mbps
Bevcomm	15/1 Mbps	ADSL	N/A
Hiawatha Broadband	60/15	Fixed Wireless	N/A

It's impossible to truly know how many customers were being served by the above-mentioned group and in many cases, customers might be within a geographical boundary may not be able to receive service due to line-of-sight issues. DSL and satellite technologies are limited in their capacity to bring high-speed internet service. We do know that people are frustrated and want better service.

PPCS has worked with Bevcomm regarding this project area and will not overbuild any of the Bevcomm traditional exchange except where service is not provided by Bevcomm but may be included in FCC reporting. Additional discussion will be had to ensure we limit duplication of service if the project is accepted.

d. **Project impact**. A description of the geographic area and the population, both in terms of absolute numbers and likely users, which will be served by the proposed project. Indicate the number of anticipated residential and business customers in the project area, if known. Explain the speed and quality of internet service that will be available. Include information about the range of packages available for purchase. Provide details on any low-income access programs and steps the project will take to support adoption.

As noted, this is a diverse area relative to the topography. This area includes primarily residential and agriculture locations. This area is limited in long-term growth except for the Maiden Rock area which may experience low to moderate growth due to the proximity of highway 35 and the Mississippi River.

Packages	*Download Speed*	*Upload Speed*	*Monthly Cost*
Gigabit	*1,000 Mbps*	*1,000 Mbps*	*$124.95*
Ultra	*250 Mbps*	*250 Mbps*	*$99.95*
Advanced	*100 Mbps*	*100 Mbps*	*$69.95*
Qualified Income	*50 Mbps*	*50 Mbps*	*$29.95**
Voice Service	*Local + Long Distance Included*	*Local + Long Distance Included*	*$24.95*

Qualified Income plans utilize qualifications based on LIHEAP based programs. PPCS has a pending application for Affordable Connectivity Program which will provide $30 discount if approved. Often the barrier to connectivity is the cost of service and the equipment needed to connect. The findings of Wisconsin Broadband Taskforce spend a considerable amount of time outlining these barriers. As a member-owned cooperative, PPCS works with broadband customers to reduce these barriers including providing technical assistance, spreading the cost of connection fees across multiple billing cycles, and working with community organizations to help provide both new and recycled equipment. No customer should be excluded from having access to connectivity when these barriers can be removed proactively and with community partnership.

e. **Scalability**. A description of how the proposed project could expand or improve the broadband service it delivers, while maintaining the quality of its broadband service. This description should include specific projected increases in the following parameters that are known at the time of the application:
   - The number of users.
   - The number of network nodes.
   - The number of services provided.
   - The geographic area served by the project.
   - The number of aggregation points in middle mile project.

   This description may also include a discussion of possible growth potential that is outside the commitment the applicant is making as part of its application.

Pierce Pepin Cooperative Services utilizes electric infrastructure to strategically make investments in the buildout of broadband. Electric cooperatives have a thorough understanding of the areas they serve and the locations that may require high-speed internet. Where electricity provides service to a location, that location is a candidate for broadband. This project extends service to portions of Salem, Hartland, and El Paso townships that lack broadband.

This project will use existing telecom hut that is located at the PPCS Esdaile substation. New electronics will be installed to serve this area. All mainline fiber will use 144-ct fiber which provides plenty of capacity for the entire project area as well as potential for growth. This project also provides redundancy by creating a ring between two other telecom huts. In addition, this will provide PPCS fiber to connect to additional PPCS service areas.

f. **Economic development**. A description of how the proposed project will promote job growth or retention, expand the property tax base or improve the overall economic vitality of the municipality or region. This description may be supplemented with a letter from one or more persons discussing the potential economic impact the project could have for that individual or business. In scoring this element, the following factors will be taken into account:
   - A discussion of potential economic impact the project could have for an individual business located in the project area.
   - An explanation of how an improved download and upload transmission speed could better support a specific business in the project area.
   - An explanation of the likely impact improved broadband service could have on residential property values, supported by local sales data if available.
   - A demonstration of how improved broadband service to a residential portion of the project could benefit a telecommuting population.
   - A demonstration of how the speeds and service being offered by the project fits with current and future economic needs of the community and local businesses.

In May of 2020, Pierce Pepin Cooperative Services embarked on a comprehensive survey of 2,500 cooperative members to better understand the needs of high-speed internet. Over 1,300 responses were received. The results of that survey depict the economic development opportunities that high-speed broadband will create. Survey participants that responded are included in the proposed project area.

As an example, we asked survey participants whether access to high-speed internet would allow a family member or themselves an opportunity to run a home-based business or work remotely. Nearly 70% responded "Yes" to this question. This has further been amplified in a Facebook Group called "Western Wisconsin Needs Broadband" where one group participant stated:

"<Satellite provider redacted> is awful. It doesn't work if we are having any type of weather. Also the cheapest package is $120 and is so slow and we burned through the data limit so fast bc I am working from home full time due to COVID. We upped to the highest package, $240/month and it is still not even reliable and we use up the limit before the month is over. It's so frustrating bc we are

barely outside of town and live close enough to the cities for me to commute (when it's not COVID) but don't have decent internet. "

The response from other residents has been consistent with the theme of this message. The frustration during the pandemic is real. A unique characteristic of the project area is the proximity to the Twin Cities metro area. A large part of the population commutes into Minnesota or other area larger cities for work. Many of these residents may never return to the office has corporations have seen the benefits of remote work. Residents who work remotely, inherently have less expenditures near their workplace which may be out of state. There is a draw to telecommute work and connectivity to broadband allows more Wisconsinites to work in rural areas and help keep our rural economies strong. In fact, the impact of COVID-19 and civil unrest during the past summer has created opportunities for border counties to the Twin Cities area. Broadband further provides incentives for telecommuters and individuals who seek the beauty of our rural landscape.

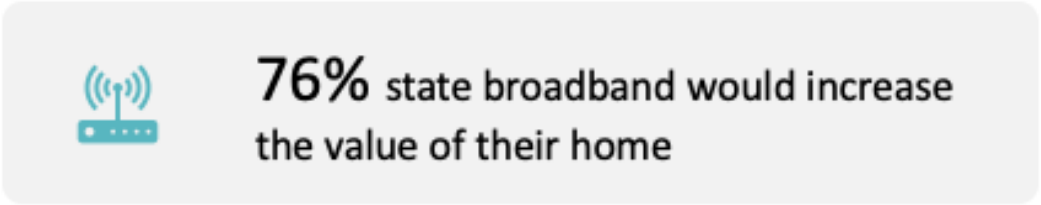
As noted in the project impact, this is also an agricultural area that is primarily involved with livestock, crops, and dairy. Advances in precision ag, telemetry and innovations on the farm will continue to require new bandwidth needs that will overpower existing infrastructure.

The impact of broadband is also demonstrated in home prices and property valuation. Two studies provide context for this:

Research and Policy INsights – Estimation of the Net Benefits of Indiana Statewide Adoption of Rural Broadband ; Larry DeBoer,Alison Grant,Wallace E. Tyner https://pcrd.purdue.edu/wp-content/uploads/2018/12/006-RPINsights-Indiana-Broadband-Study.pdf

Measuring the Economic Impact of Broadband", September 18 2019NTIA Broadband USA Webinar Series; https://broadbandusa.ntia.doc.gov/webinar_190918#contententarea

Currently in Pierce County, the unserved land value in total is $52,926,650.00 with an improved value total of $124,117,700.00. Applying a two to three percent increase would increase the total property value by a total of $2.48 to $3.72 million. Survey respondents overwhelming support this stating, 76% see broadband increasing the value of their home.



The Pierce County Economic Development Corporation completed a white paper to help encourage additional investment by the county in broadband. A copy of that report has been posted online at https://pcedc.com/wp-content/uploads/2021/01/Broadband_whitepaper.pdf

The project area is situated between Ellsworth and Plum City. The public schools in both communities have challenges in era of COVID-19. Access to high-speed internet improves the educational system and institutions.

The survey demonstrated that median household incomes and educational levels are above rural norms as shown in Figure 4. Customers in this area are likely to subscribe and may work within

industries that avail themselves to a connected workforce. These customers also recognize the importance of broadband in the area. Survey responses indicate that 70% believe high-speed internet is important to long-term economic viability.

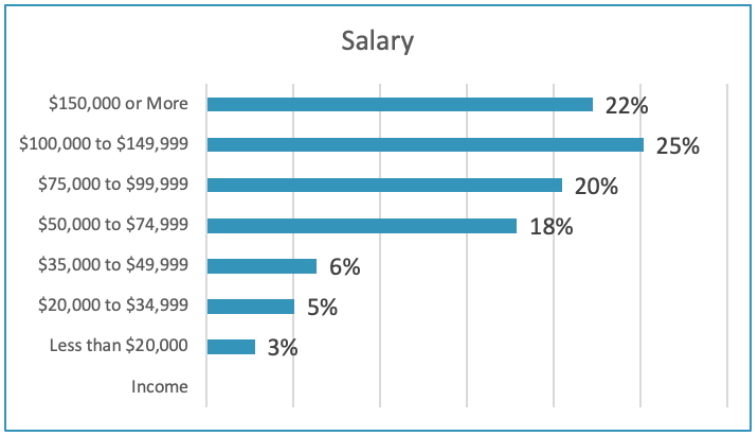


Figure 5: Survey results on household income in project area

g. **<u>Effect upon broadband service to adjacent areas</u>**. A description of whether the proposed project will or will not impair the ability of a broadband service provider or competing broadband service provider to extend broadband service to areas adjacent to the proposed project area.

This project does infringe upon other types of broadband services from competing for these customers.

3.2.5 Other information supporting the application

a. A description of applicant's history or experience constructing broadband communications facilities in the State and elsewhere.
   - If applicable, an applicant must comment upon the status of all prior broadband expansion grant projects, including the type of broadband technology used, the facility route actually built or installed, the number of residential and business customers actually connected, and other relevant details of the prior project(s).
   - An applicant may also comment on broadband construction projects undertaken in prior years that were not funded in part by the Broadband Expansion Grant program.

Pierce Pepin Cooperative Services officially launched a broadband subsidiary in 2021. The 2021 WI PSC broadband grants provided the initial opportunity for PPCS to participate in the broadband expansion grants.

PPCS has two main goals of building fiber. The first is to bring broadband service in an area that needs connectivity. The second is to build a fiber backbone to electric distribution substations for the purpose of building the next generation grid. During the larger PPCS buildout, a parallel path will begin building out fiber along electrical feeders that serve member premises and connecting

cooperative distribution assets. Improving fiber connectivity not only benefits homes and business by providing high-speed internet, but it helps improve the electric grid.

PPCS has partnered with Conexon based out of Kansas City, Missouri. Conexon works exclusively with rural electric cooperatives to bring fiber to the home in rural communities. The company is comprised of professionals who have worked in electric cooperatives and the telecommunications industry, and offer decades of individual experience in business planning, building networks, marketing and selling telecommunications. Conexon offers electric cooperative client's end-to-end broadband deployment and operations support, from a project's conception all the way through to its long-term sustainability. They have worked with clients to analyze economic feasibility, secure financing, design the network, manage construction, provide operational support, optimize business performance, and determine optimal partnerships. To date, Conexon has assisted nearly 200 electric cooperatives, approximately 100 of which are deploying fiber networks. Their work with clients has resulted in nearly 150,000 connected fiber-to-the-home subscribers across the U.S., and the company has secured more than a quarter of a billion dollars in federal and state grants for its clients. At the current rate, Conexon is building 2,500 miles per month and connecting 15,000 subscribers. The relationship PPCS has with Conexon will ensure project success.

Wisconsin PSC Broadband Expansion Grant 2021
PPCS was awarded two grants in the WI PSC FY2021 grant program to build to approximately 475 locations. This Phase 1 project is scheduled to be completed this Spring. PPCS expanded the original scope of this project and self-funded a larger build which included bringing fiber to 1500 locations and building 175 miles of fiber. The investment by the WI PSC grant program has created a much bigger impact than the original application.

Wisconsin PSC ARPA Broadband Expansion Grant 2022
In the Fall of 2021, PPCS was awarded nine projects to serve 2400 locations and build 466 miles of fiber as a Phase 2 project. This project has been concurrently kicked off as Phase 1 comes to closure. Phase 2 will be completed in the Spring of 2023. As part of Phase 2, Esdaile Circuit 1 which includes areas to the north and northwest of this proposed project will be served.

PPCS has demonstrated it can handle the scale of these projects and continue to build out service in an aggressive and efficient manner. PPCS has been managing through material and contractor availability, and while challenges exist, the Phase 1 project is ending with more than 800 customers registering for service and more signing up each day. We expect once Phase 2 begins rolling out to customers, take rates will be in the 60% range before the first premise drop is completed. We expect in this application take rates to around 50% with levels reaching 60% in the first five years.

b. A description of how the proposed project will or will not duplicate existing broadband infrastructure.

As part of the due diligence process, PPCS physically drives the project area noting fiber and existing broadband` services. Where possible, PPCS takes notes of these and validates with customer survey, questionnaire, and research. PPCS does not believe this project substantially overlaps service providers that are providing reliable broadband without restrictions.

c. A description of an applicant's financial ability to undertake the proposed broadband construction project.
This may include information such as the number of years the company has been in

operation, documentation of successful completion of similar infrastructure projects, evidence that sufficient funds are available to cover project expenditure and match, customer turn-over rates, and credit rating.

PPCS was incorporated in 1937 and energized its first member in 1938. We have strong financials for a cooperative our size, including revenues consistently over $18 million over the past two years. As a cooperative, we provide service in a not-for-profit model. The cooperative has returned $16.3 million back in patronage to members. This is money that is put back into the hands of our member-owners when the cooperative is successful. Our net margin was $1.3 million in 2021. We currently have $43 million dollars in assets. Our equity ratio at the end of 2021 was 57%, which was 12 points higher than industry averages for over 800 electric cooperatives. We have secured additional funding through our national lending institutions for the buildout of fiber. Exhibit E includes a letter from National Rural Utilities Cooperative Finance Corporation.

d. For middle mile projects, state the terms under which the applicant will make its middle mile fiber resource available to last mile providers. Without disclosing project-specific or customer-specific negotiated rates for service or access, state whether access to the middle mile fiber resource will be offered to last mile providers at a rate that is reasonable and common to the industry. Describe any restrictions or limits that may limit the availability or interconnection with the middle mile route.

N/A

e. For middle mile routes, state the amount of fiber capacity, by number of fiber strands in a cable, that the applicant has been reserved for public use. Describe any commitment or tentative discussion indicating the local government or State agency that might use those fiber strands, and for what purpose. Describe any restrictions or limits that may limit the public use (e.g. a possible use conflicts with an existing program covering the same subject matter).

N/A

f. A description of how the proposed project will affect the ability of individuals to access health care service from home, including any impact upon the costs of those services.
   - Specific information from a hospital or clinic in the project area that currently uses or intends to use home-based telemedicine equipment to enhance access health care service would best illustrate this point.

The COVID-19 pandemic has put a large spotlight on telemedicine as for many individuals this has become the only way to see their provider, renew prescriptions, and receive updates to medical equipment such as pacemakers. Rural residents often must travel to a community center, library, or hotspot to connect with providers as we have no hospitals inside of Pierce County. Allina Health, Vibrant Health Family Clinics, and the Mayo Clinic Health system all offer telemedicine options.

Rural health and the opportunities for seniors to see local providers is in decline. While the health industry pushes towards telemedicine, those without access lose out and often end up driving much

greater distances to receive medical care. Enabling broadband doesn't fix hospital closures, but it opens new opportunities for the future. Included in the application is a letter of support, Exhibit F, from Pierce County Health Officer and Public Health Director AZ Snyder. In her letter she states:

"I am writing to express my support for Pierce Pepin Cooperative Services' efforts to increase broadband internet access in Pierce County, Wisconsin. Not only does access to fast, reliable, and affordable internet have direct health benefits as a result of increased access to healthcare providers and health information, but it has indirect health benefits to health deriving from increased economic and educational opportunities for Pierce County residents.

Half of Pierce County is a designated Health Professional Shortage Area (HPSA), meaning we have a shortage of healthcare providers compared to the population. Pierce County has no hospitals within our borders. Two clinics we had in rural areas of our county (Ellsworth and Spring Valley) closed in 2020, further reducing access in in-person local medical care. Pierce County has less primary care providers, dentists, and mental health providers per population than both the state and neighboring St. Croix County."

Ms. Snyder goes on to state:

"The continuation and expansion of telehealth services by Pierce County Public Health relies on the availability of broadband internet access. Affordable and quality internet access would also allow us to reach more diverse audiences in rural areas of the county who have traditionally been underserved. This access would result in real health impacts on the health status of Pierce County residents."

Expansion of broadband indeed will benefit the expansion of health care options in the county. It will make care easier and allow for innovative ways for residents to interact with their providers and to ensure they are receiving timely and crucial health services to maintain health.

g. A description of how the proposed project will affect the ability of students to access educational opportunities from home.
   - Specific information on the likely number of students that will benefit from improved access to educational opportunities from home would be useful.
   - Specific information regarding educational programs that are currently available for students in the project area would be useful.

The project area includes both the Ellsworth and Plum City School Districts, as well as the University of Wisconsin-River Falls and Chippewa Valley Technical College. Both school districts, CVTC and the university utilize technology in their schools including providing laptops for students.

All school systems are doing in-person, hybrid, and distant learning. Individuals who do not have broadband must find public hot spots or access connectivity through community services such as libraries. Pierce County is a poster child for students who are unable to do schoolwork from home and must sit in parking lots that offer wi-fi. Having access to broadband will eliminate the need for students to stay in town or finding a hotspot in the evening to complete schoolwork.

Outside of the overwhelming desire to have a fiber option, the most common response we received in our survey was the access to broadband for learning. The following comments are reflective of the community support for this project:

"I knew it was inadequate but with my kids trying to do school from home it had made it even more apparent how lacking our service is."

"High quality internet service is as critical to this area as electricity. We don't assume rural people will find their electricity through random means, but that is what is currently happening with broadband. Our kids are missing out by not being connected."

The 21st Century classroom incorporates digital learning and the ability for children to be able to learn and research is critical. Rural children need the same opportunities as those living in larger communities. Our project accomplishes another piece of bridging the gap.

h. A description of actions taken by a city, village, town, or county in support of the grant application that have not been discussed in the context of a public-private partnership above, including but not limited to:
   - The contribution of funds, easements or permissions to use publicly-owned real estate, construction materials, or other items of value to the grant project.
   - The contribution of in-kind assistance to the grant project in the form of waived fees and expenses for obtaining use permits and permissions.
   - The contribution of other items of benefit to the grant project, such as public outreach and education, vehicles, water, etc.
   - Certification as a Broadband Forward! Community or Telecommuter Forward! Community.

The Town of El Paso has committed $37,314 to the project costs. The Town of El Paso has been a supportive partner in other grant application rounds. The Town passed the resolution in November 2021 with the idea the money could be used for broadband projects. With the completion of this project, we believe the Town of El Paso will be one step closer to having 100% fiber broadband connectivity.

Pierce County EDC has also committed in-kind contributions. As executive director, Joe Folsom, provides a tremendous amount of outreach and work on behalf of the EDC to help educate the community about the importance of broadband. Joe will provide additional technical assistance, education, training, and facilitate workshops as part of the contributions to make this project successful.

Pierce County has signed a letter of support for broadband. This letter has been included in the exhibits.

i. Letters and messages in support of the application submitted by prospective customers, local government officials, and other interested persons.

Letters of Support

1. Senator Jeff Smith
2. Representative Warren Petryk
3. Representative Clint Moses
4. Pierce County
5. Representative Shannon Zimmerman
6. AZ Snyder, Pierce County Health Officer

j. Any other equitable factor that the applicant desires to discuss, including one or more of the factors in Wis. Stat. § 196.03(6) that the applicant believes its project would advance. In discussing this element, the following information may be useful:
   - Technical support and training materials that the applicant intends to provide.
   - Information that the applicant intends to use to promote better broadband adoption and use.
   - A description of a program or outreach to provide assistance to individuals of low income.

The application includes digital literacy events held at town halls in the service area of the application. These events will be held two to three times next year in which residents can attend a session at their town hall. These events will focus on the basics of connecting devices, using a browser, checking e- mail, setting up links, and conducting a FaceTime, Zoom, or equivalent call. These events will be open to all residents. PPCS has access to promote these events because of the existing relationship with customers in the service area. In addition, PPCS continues to work closely with Pierce County with the hopes that additional funding will be provided to help with assistance programs to get county residents connected.

Exhibit Listing

Exhibit A – Town of El Paso Resolution
Exhibit B – Pierce County Economic Development Corporation Agreement
Exhibit C – Pierce County Broadband Support Letter
Exhibit D – Letters of Support from Senator Jeff Smith, Representative Warren Petryk, Representative Shannon Zimmerman, and Representative Clint Moses
Exhibit E – National Rural Utilities Cooperative Finance Corporation
Exhibit F – Letter of Support from AZ Snyder, Pierce County Health Officer
Exhibit G – Bill of Materials Sample for Project

Exhibit A

Resolution # 2021-1

Resolution for the Public Private Partnership Agreement between Pierce Pepin Cooperative Services and the Town of El Paso

Purpose: To provide American Rescue Plan Act funds to build and develop broadband for the residents and businesses of the Town of El Paso.

WHEREAS, on March 11, 2021, President Biden signed into law the $1.9 trillion relief bill known as the American Rescue Plan Act, also known as ARPA.

WHEREAS, the United States Department of Treasury issued an interim final rule effective on May 17, 2021, authorizing the use of ARPA funds for broadband development.

WHEREAS, the Town of El Paso desires to utilize the allocation of $37,314 to fund broadband development by Pierce Pepin Cooperative Services by December 31, 2024.

WHEREAS, Pierce Pepin Cooperative Services intends to build fiber to the premise for homes and businesses in the Town of El Paso who are unserved or underserved.

WHEREAS, Pierce Pepin Cooperative Services will utilize the $37,314 to develop broadband infrastructure, assistance and educational outreach within the Town of El Paso.

NOW, THEREFORE, BE IT RESOLVED by the Town of El Paso Board to enter into a Public Private Partnership Agreement with Pierce Pepin Cooperative Services to expand access and services to underserved and unserved areas of the Town of El Paso.

Adopted this 8th day of November, 2021, at a regular Town Board meeting.

By the Town Board:

Ronald Kannel

By: Ronald Kannel
Title: Chair

Sherri L Heise

Attest: Sherri L. Heise
Title: Clerk

Exhibit B

A PUBLIC PRIVATE PARTNERSHIP AGREEMENT WITH PIERCE PEPIN COOPERATIVE SERVICES FOR A BROADBAND EXPANSION PROJECT IN PIERCE COUNTY,

WHEREAS, Pierce County Economic Development Corporation, Wisconsin, seeks to help provide access to resources and the support structure necessary for economic development within its boundaries; and

WHEREAS, Pierce Pepin Cooperative Services a Wisconsin cooperative doing business in Pierce County, proposes a partnership to expand fiber-based broadband capability to reach the un-served and underserved residences and businesses in Pierce County where such service is currently unavailable or not readily available; and

WHEREAS, it is currently expected that the proposed broadband expansion would be constructed in areas within Pierce County, and the enhanced broadband access and availability will be utilized to position the area for desirable economic growth through addressing broadband existing service disparities that now exist through drops to all businesses and residential homes that want connection within the project area; and

WHEREAS, Pierce Pepin Cooperative Services has applied for a Broadband Expansion Grant with the Public Service Commission of Wisconsin to expand access to broadband services in Pierce County who has approved a letter in support for the Broadband Expansion Grant; and

WHEREAS, to further support its application for a Broadband Expansion Grant, Pierce Pepin Cooperative Services and Pierce County Economic Development Corporation enter into an agreement, referred to as a Public Private Partnership Agreement, to assist in this Project by:

> The Pierce County Economic Development Corporation has committed to the following contribution: to educate, encourage adoption, and help inform community members of the benefits of fiber-to-the-home.

WHEREAS, the Pierce County Economic Development Corporation desires to enter into a Public Private Partnership Agreement with PPCS in support of this Broadband Expansion Project.

NOW, THEREFORE, BE IT RESOLVED, by the Pierce County Economic Development Corporation to enter into this Public Private Partnership Agreement with Pierce Pepin Cooperative Services to expand fiber-based broadband access and services to unserved and underserved areas of Pierce County.

FISCAL NOTE: Pierce County Economic Development Corporation will have no financial obligation through this agreement.

Adopted by: Pierce County Economic Development Corporation

Joseph M Folsom

Joe Folsom, Executive Director

3/11/2022

Date

Pierce Pepin Cooperative Services

Nate Boettcher, President and CEO

3-11-22

Date

Exhibit C

RESOLUTION NO. 21-32

RESOLUTION OF PIERCE COUNTY IN SUPPORT OF BROADBAND INFRASTRUCTURE EXPANSION AND AVAILABILITY

WHEREAS, the infrastructure and availability of broadband is far more prevalent in Wisconsin Cities, however, in more rural areas, including Pierce County, there are gaps in broadband access; and

WHEREAS, in 2020 the COVID-19 pandemic resulted in the increased need for children to attend school remotely, for municipalities to conduct meetings and business remotely, for employees to work remotely, and the need for businesses in the County to have appropriate broadband internet access, and furthermore, the lack of broadband access and availability to Pierce County residents, employers, employees and others became more evident; and

WHEREAS, appropriate broadband access in all corners of our state, including in Pierce County, is crucial for the success of our students, employers, employees, farmers, and the citizens of the County; and

WHEREAS, the growing importance of, and need for, appropriate broadband for businesses, farmers, health care facilities, schools, students, citizens and municipalities is obvious, and is expected to continue as the new normal; and

WHEREAS, there are various financial opportunities becoming available to businesses and utilities through state and federal grant opportunities, via American Rescue Plan Act (ARPA) grant funds and otherwise, for which it will take time to make determinations on who will receive those funds, and many businesses and utilities will be submitting applications for such funds, and seek the support of the County in that endeavor; and

WHEREAS, local governments play an important role in helping to solve the problem of adequate universal broadband access and availability, and Pierce County desires to make it known that it is supportive of the expansion and upgrading of broadband infrastructure and access availability for employees, businesses, and the citizens within Pierce County; and

NOW, THEREFORE BE IT RESOLVED, by the Pierce County Board of Supervisors that it supports the efforts in helping to solve the problem of adequate universal broadband access and availability, and is supportive of the expansion and upgrading of broadband infrastructure and access availability in underserved areas for employees, businesses, and the citizens within Pierce County.

Dated this 22nd day of February, 2022.

Jeffrey A. Holst, Chair
Pierce County Board of Supervisors

ATTESTED TO BY:

Jamie Feuerhelm, County Clerk

FEB 22, 2022

APPROVED AS TO FORM AND LEGALITY BY:

Bradley D. Lawrence, Corp. Counsel

BDL

Adopted: _____

Exhibit D

JEFF SMITH

WISCONSIN STATE SENATOR – 31ST DISTRICT

March 7, 2022

Steffany Powell Coker, Secretary to the Commission
North Tower, 6th Floor
4822 Madison Yards Way
Madison, WI 53705

Dear Review Panel Members,

As you consider applications for the 2022 grant cycle of the Broadband Expansion Grant Program, I urge you to consider supporting Pierce Pepin Cooperative Services' broadband expansion project. I am encouraged to see the dedication from this cooperative to expand high-speed internet in a rapidly growing area in our state. This project will have a positive impact on families and businesses in western Wisconsin.

Pierce Pepin Cooperative Services is dedicated to expanding broadband to unserved and underserved areas in rural Wisconsin—they've demonstrated this by connecting over 3,900 locations. This expansion aims to extend high-speed broadband internet in Pierce County, focusing mainly on the Towns of Salem and Clifton. I have been supportive of their efforts to expand broadband in the past and have been encouraged by their work and results. Pierce Pepin Cooperative Services recognizes the need for connecting their communities and they have a strong track record of providing good service.

The COVID-19 pandemic highlighted just how important broadband access is for our communities to thrive and for residents to stay connected. This project's success will create more opportunity for our community by helping our students, businesses and farmers access high-speed internet.

I am proud to represent Wisconsin's 31st Senate District, and I am committed to the betterment of Wisconsin as a whole. Pierce Pepin Cooperative Services has shown a clear and consistent commitment to help our communities receive the broadband services they need, which is why I recommend the approval of this grant application.

Sincerely,

Jeff Smith

JEFF SMITH
State Senator
31st Senate District

State Capitol • P.O. Box 7882 • Madison, WI 53707-7882 • (608) 266-8546
Toll-Free: (877) 763-6636 • Fax: (608) 282-3571 E-mail: Sen.Smith@legis.wisconsin.gov

Exhibit D

CLINT P. MOSES

STATE REPRESENTATIVE • 29TH ASSEMBLY DISTRICT

March 1, 2022

Chairperson Rebecca Valcq
Public Service Commission of Wisconsin
4822 Madison Yards Way
Madison, WI 53705

Dear Chairperson Valcq:

I strongly support Pierce Pepin Cooperative Services' broadband expansion grant application to help fund their project in Pierce County.

While Pierce County is just south of the district I represent, I know that this project will greatly benefit the people of Western Wisconsin. In addition, Pierce Pepin Cooperative Services serves families and businesses in my district, and I am familiar with the great service they provide. Broadband connection is becoming increasingly important for the lives and economic wellbeing of rural Americans as they seek to work and learn remotely and utilize telehealth services.

The Townships of Salem and Clifton know how beneficial this grant can be. This project is proactive and will provide residents with all the new opportunities that broadband connection can bring. I thank you for your fair and full consideration of this application.

Sincerely,

Clint P. Moses
State Representative
29th Assembly District

Exhibit D

Warren Petryk

State Representative • 93rd Assembly District

February 25, 2022

Steffany Powell Coker
Secretary to the Commission
Public Serve Commission
4822 Madison Yards Way
North Tower 6th Floor
Madison, WI 53705-9100

RE: Towns of Clifton and Salem Broadband Grant

Dear Commission Members,

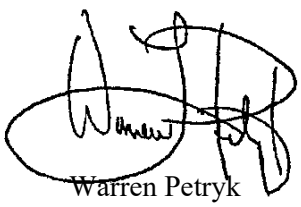
I write to you today to express my support for the Towns of Clifton and Salem receiving the PSC Broadband Expansion Grant.

Increasing broadband access in the Towns of Clifton and Salem would enable community members to access much needed services such as telehealth and virtual school, as well as maintain relationships with friends and family members during the COVID-19 pandemic. This important project will also maximize Western Wisconsin's potential to have a flourishing economy.

I ask you to please consider and approve the Towns of Clifton and Salem Broadband Expansion Grant which will support economic development and foster increased access to improve the lives of the citizens of the townships.

Thank you for your consideration. If you have any questions for me, please feel free to contact me in my office at (608) 266-0660.

Sincerely,



Warren Petryk
State Representative
93rd Assembly District

Capitol Office: Post Office Box 8953 • Madison, Wisconsin 53708-8953 • Rep.Petryk@legis.wi.gov • (608) 266-0660 • **Toll-Free:** (888) 534-0093 • **Home:** (715) 878-4002

Exhibit D

SHANNON ZIMMERMAN

STATE REPRESENTATIVE • 30th ASSEMBLY DISTRICT

January 25, 2022

Nate Boettcher
President & CEO
Pierce Pepin Cooperative Services
W7725 US Highway 10
Ellsworth, WI 54011

Dear Mr. Boettcher,

I am writing today to recommend that 3 broadband applications (Phase 3) in Pierce and St. Croix Counties receive fiscal year 2022 Public Service Commission Broadband Expansion Grants. Due to the area's strategic position in a fast growing and dynamic area, broadband grants here would go a long way toward encouraging overall economic growth.

The area is in the midst of rapidly expanding region. To take advantage of the growth we have been offered, it would be strategically smart for the state to ensure residents of the area have broadband access. It is a necessity for businesses, and access is a make or break decision for people when moving to a new area.

Ensuring the economic success of the area would not only be good for my constituents, but for the State of Wisconsin. I hope you see the same potential, and agree that rewarding Public Service Commission Broadband Expansion Grants would be a wise investment.

Thank you very much for your consideration. Please do not hesitate to contact me to discuss this personally.

Sincerely,

Shannon Zimmerman
State Representative
30th Assembly District

P.O. Box 8953 • Madison, Wisconsin 53708-8953 • (608) 266-1526 • Toll Free: (888) 529-0030
Rep.Zimmerman@legis.wi.gov

Exhibit E

National Rural Utilities
Cooperative Finance Corporation
Created and Owned by America's Electric Cooperative Network

20701 Cooperative Way
Dulles, Virginia 20166
703-467-1800 | www.nrucfc.coop

November 6, 2020

Mr. Nate Boettcher
CEO
Pierce Pepin Cooperative Services
P.O. Box 420
Ellsworth, WI 54011

Dear Mr. Boettcher:

The National Rural Utilities Cooperative Finance Corporation ("CFC") hereby confirms that, as of the date herein, Pierce Pepin Cooperative Services ("Pierce Pepin"), has availability under committed long term credit facilities up to $8,500,000 for the financing of additional utility plant and has availability under existing line of credit facilities up to $2,000,000 to support its short-term general working capital needs. Pierce Pepin has applied for an additional $30,000,000 in financing to support its broadband project; the application is pending approval.

Advances under all credit facilities are subject to the specific provisions of the credit documentation governing each facility, including fulfillment of certain conditions precedent and the absence of any defaults at the time of the advance.

Pierce Pepin has been a member of CFC since 1970 and is in good standing.

CFC is a $25 billion financial institution created and owned by America's electric cooperatives fifty years ago. CFC's secured long-term debt is rated "A" by Standard and Poor's, "A1" by Moody's, and "A+" by Fitch. CFC Is a "Well Known, Seasoned Issuer" under Securities and Exchange Commission rules and has longstanding relationships with global and domestic banks.

CFC appreciates your business and looks forward to working with Pierce Pepin on current and future projects. If you have any questions, please feel free to call me at 1-800-424-2954, ex. 1885.

Sincerely,

Jennifer Mink
Associate Vice President

Exhibit F

PIERCE COUNTY Public Health

3.11.2022

To whom it may concern:

I am writing to express my support for Pierce Pepin Cooperative Services' efforts to increase broadband internet access in Pierce County, Wisconsin. Not only does access to fast, reliable and affordable internet have direct health benefits as a result of increased access to healthcare providers and health information,[1] but it has indirect health benefits to health deriving from increased economic and educational opportunities for Pierce County residents.

Half of Pierce County is a designated Health Professional Shortage Area (HPSA), meaning we have a shortage of healthcare providers compared to the population. Pierce County has no hospitals within our borders. Two clinics we had in rural areas of our county (Ellsworth and Spring Valley) closed in 2020, further reducing access in in-person local medical care. Pierce County has less primary care providers, dentists, and mental health providers per population than both the state and neighboring St. Croix County (see comparison below).

[1] National Research Council (US) Committee on Enhancing the Internet for Health Applications: Technical Requirements and Implementation Strategies. Networking Health: Prescriptions for the Internet. Washington (DC): National Academies Press (US); 2000. 2, Health Applications of the Internet. Available from: https://www.ncbi.nlm.nih.gov/books/NBK44714/

TALK TO US
Phone: 715-273-6755
Fax: 715-273-6854
www.co.pierce.wi.us

VISIT US
412 W Kinne St
Ellsworth, WI 54011

OUR MISSION
To promote healthy behaviors, prevent disease and injury, and protect against environmental hazards

Pierce County is seeing the direct and real impacts of lack of healthcare access to locally. Only 22% of men over 65 and 20% of women over 65 in Pierce County are up to date on their core clinical preventive services (compared to 32.7% and 28% nationally).[2]

Pierce County Public Health provides a number of clinical services via telehealth. We could greatly increase the number of clients we serve if high-speed internet access was available equitability across the county. During the pandemic, our WIC Supplemental Nutrition program, which provides essential nutrition services and benefits to mothers and their babies, was forced to transition to remote services. We found that many families prefer *not* having to come into the clinic, and would prefer that we continued to offer telehealth services. Additionally, our reproductive health clinic, which provides STI testing and treatment, contraception and sexual health education, transitioned to mostly remote services during the pandemic. This had the positive impact of increasing access to reproductive health services for populations who face transportation challenges. In 2021, a third of our reproductive health clinic visits were conducted via telehealth technology. We are hoping to continue to expand our telehealth offerings in future years based on client preferences.

The continuation and expansion of telehealth services by Pierce County Public Health relies on the availability of broadband internet access. Affordable and quality internet access would also allow us to reach more diverse audiences in rural areas of the county who have traditionally been underserved. This access would result in real health impacts on the health status of Pierce County residents.

Thank you for your consideration,

DocuSigned by:
Aydinn Snyder
DF556B760F0049B...

AZ Snyder

Health Officer and Public Health Director

[2] PLACES Project

TALK TO US

Phone: 715-273-6755

Fax: 715-273-6854

www.co.pierce.wi.us

VISIT US

412 W Kinne St

Ellsworth, WI 54011

OUR MISSION

To promote healthy behaviors, prevent disease and injury, and protect against environmental hazards

Exhibit G

Taps	474
Meters	215
Aerial	28.00
UG	31.00
Total	59

ESTIMATED CONSTRUCTION BOM FOR: Esdaile 2

CONSTRUCTION WO:

Unit Description	Preferred Vendor	Part Number	Client Part #	UOM	Package Qty	Est Build Qty
WASHER, SQ FLAT, 11/16in HOLE, 2in SQ Square flat washer, 2" square x 1/8" thick with 11/16" diameter hole for 5/8" diameter bolt. Manufactured in compliance with NEMA PH-10. Galvanized per ASTM A-153 or ASTM B695. RUS listed, d - Washers, flat	Hubbell	6812		EA	300	2,060
EYENUT, THIMBLEYE, 5/8in. Threaded Thimbleye® for attaching to 5/8" thru-bolts or threaded end of straight or angle Thimbleye® bolts for straight-away head guys.Drop-forged galvanized steel.	Hubbell	6510		EA	50	134
EYELET, THIMBLEYE, 5/8 No Threads. Thimbleye® eyelet used on ordinary 5/8" machine bolts for straight-away guys. Rounded groove protects guy strand from sharp kinks and bends. Drop-forged galvanized steel. Construction for high strength applications.	Hubbell	6519		EA	25	56
Hook Guy Storm (Pig Ear)	Hubbell	5004		EA	50	224
#6 COPPER WIRE FT	VARIOUS	#6 SOLID BARE		Coil(Reel)	315	1
KUL BONDING CLAMP Used to Bond 1/4" to 7/16" Strand to #8 to 2/0 Copper Wire	Hubbell	EM-KUL14716		EA	100	515
SPLICE, STEEL GUY WIRE 1/4 IN Formed Wire Line Splice for 1/4" Guy Strand	Hubbell	FWLS2104		EA	50	56
DEADEND, GUY WIRE 1/4 IN. Formed Wire Deadend for 1/4" Guy Strand	Hubbell	FWDE1104		EA	50	700
REGULAR SQUARE NUT FOR 5/8in THREAD BOLTS	Hubbell	55084P		EA	500	1,030
NUT, LOCK, MF CURVED TYPE, 5/8in THREAD MF type curved lock nut for 5/8" diameter bolt, tapped 5/8-11-UNC. Hot dip galvanized per ASTM A-153. RUS listed, ek - Locknut.	Hubbell	3512		EA	800	1,030
BOLT, MACHINE, SQ HEAD, 5/8" x 8" Square head machine bolt, 5/8" diameter x 8" long with 4" thread length and cone point. Includes one square nut. Rated tensile strength is 12,400 lbs. Hot dip galvanized per ASTM A-153.	Hubbell	8808		EA	25	15
BOLT, MACHINE, SQ HEAD, 5/8in x 10in Square head machine bolt, 5/8" dia. x 10" long with one square nut. Rated tensile strength is 12,400 lbs. Hot dip galvanized per ASTM A-153 and manufactured in compliance with industry standard ANSI C135.1. RUS listed.	Hubbell	8810		EA	50	30
BOLT, MACHINE, SQ HEAD, 5/8in x 12in Square head machine bolt, 5/8" diameter x 12" long with 6" thread length and cone point. Includes one square nut. Rated tensile strength is 12,400 lbs. Hot dip galvanized per ASTM A-153.	Hubbell	8812		EA	25	359
BOLT, MACHINE, SQ HEAD, 5/8in x 14in Square head machine bolt, 5/8" diameter x 14" long with 6" thread length and cone point. Includes one square nut. Rated tensile strength is 12,400 lbs. Hot dip galvanized per ASTM A-153.	Hubbell	8814		EA	25	252
BOLT, MACHINE, SQ HEAD, 5/8in x 16in Square head machine bolt, 5/8" diameter x 16" long with 6" thread length and cone point. Includes one square nut. Rated tensile strength is 12,400 lbs. Hot dip galvanized per ASTM A-153.	Hubbell	8816		EA	25	140
BOLT, MACHINE, SQ HEAD, 5/8in x 18in Square head machine bolt, 5/8" diameter x 18" long with 6" thread length and cone point. Includes one square nut. Rated tensile strength is 12,400 lbs. Hot dip galvanized per ASTM A-153.	Hubbell	8818		EA	25	56
BOLT, MACHINE, SQ HEAD, 5/8in x 20in Square head machine bolt, 5/8" diameter x 20" long with 6" thread length and cone point. Includes one square nut. Rated tensile strength is 12,400 lbs. Hot dip galvanized per ASTM A-153.	Hubbell	8820		EA	30	56
BOLT, MACHINE, SQ HEAD, 5/8in x 22in Square head machine bolt, 5/8" diameter x 22" long with 6" thread length and cone point. Includes one square nut. Rated tensile strength is 12,400 lbs. Hot dip galvanized per ASTM A-153.	Hubbell	8822		EA	30	56
BOLT, THIMBLEYE, STRAIGHT, 5/8in x 10in Straight thimbleye bolt, 5/8" diameter x 10" length, with 4" thread length and cone pointed end. Includes one square nut. Internal eye dimensions are 9/16" x 11/16".	Hubbell	5510		EA	25	6
BOLT, THIMBLEYE, STRAIGHT, 5/8in x 12in Straight thimbleye bolt, 5/8" diameter x 12" length, with 6" thread length and cone pointed end. Includes one square nut. Internal eye dimensions are 9/16" x 11/16". Rated tensile strength is 12,400 lbs.	Hubbell	5512		EA	25	28
BOLT, THIMBLEYE, STRAIGHT, 5/8in x 14in Straight thimbleye bolt, 5/8" diameter x 14" length, with 6" thread length and cone pointed end. Includes one square nut. Internal eye dimensions are 9/16" x 11/16". Rated tensile strength is 12,400 lbs.	Hubbell	5514		EA	25	28
CLAMP, SUSPENSION, STRAIGHT Messenger suspension clamp is used with 5/8" diameter through bolt to support cable at poles on straight runs. Through bolt also serves as clamping member. Clamp includes two 1 5/8" carriage bolts. Accommondates strand size 1/4" throught 7/16".	Hubbell	7903		EA	25	1,030
CLAMP, SUSPENSION, ANGLE, 5/8" 1/4" thru 7/16" Strand Range	Hubbell	7902L		EA	25	154
BRACKET, CORNER ATTACHMENT, DEADEND Corner Attachment Bracket is an integral thimble eye pole attachment for deadending strand and guy grips at angles of 35° to 60°. Pole mounting surface is curved with integral spurs. Accommodates Maximum 1/2" diameter strand/guy grips.	Hubbell	PSC2080479		EA	25	28
CONNECTOR, SPLIT BOLT For copper to copper 2-wire connections. For #8 to #4AWG wire.	Hubbell	SBN4		EA	100	515
EYE, AUXILIARY, 5/8in. TO 1in. Auxiliary Eye bolts to existing anchor rods to add an additional point of attachment for guying. Accomodates rod diameters of 5/8" through 1". Minimum ultimate tenslie strength is 18,000 lbs.	Hubbell	BB155A		EA	20	196
AUX Eye for 1 1/4" Rod	Allied Bolt	3162		EA	10	28
Economy Guy Marker, UV Stabilized, yellow 1 1/4" Diameter, Round 8' Long Attachment Device UTC (Universal Cable Tie)	Preformed Line Products	PGMS9838		EA	30	224
CLAMP, ANCHOR-EYE BONDING Thimbleye® bonding clamps maintain a dependable mechanical and electrical pressure contact between guy strand and anchor rod when the guy is part of the grounding system.	Hubbell	G5060		EA	200	31
CLAMP, ANCHOR-EYE BONDING Twineye® bonding clamps maintain a dependable mechanical and electrical pressure contact between guy strand and anchor rod, when the guy is part of the grounding system. Cross Note: Or GC5069	Hubbell	G5061		EA	100	28
CLAMP, ANCHOR-EYE BONDING Tripleye® bonding clamps maintain a dependable mechanical and electrical pressure contact between guy strand and anchor rod, when the guy is part of the grounding system.	Hubbell	G5063		EA	100	62
SPACER,BELL CABLE 1/2 IN. Bell shaped spacer used to create a 1/2" space between messenger strand and aerial cable. Black plastic.	Hubbell	PSC2080421		CASE	1000	4,120
D Lashing Wire Clamp (bug nut) 1st Option	Hubbell	CDLC		BOX	100	0
D Lashing Wire Clamp (bug nut) 2nd Option	PPC	PPC 26-09010		BOX	100	
STRAP, LASHING, STAINLESS STEEL, 10 IN	Hubbell	C10SSLC		CARTON	500	4,120
STRAP, LASHING, STAINLESS STEEL, 16 IN	Hubbell	C16SSLC		CARTON	500	168
Buckle lashing Strap (Deltek Buckel)	Hubbell	CBPLLC		EA	25	168
Strap Lashing (Deltek 50')	Hubbell	C50 PLLC		EA	10	14
OPTILOOP, 17" Plastic w/ Tap BKTS OptiLoop 17" Strand/Messenger Aerial Slack Storage System, Plastic, Single-wrap	Hubbell	FOSP17TMK		Pair	1	34
ANCHOR, NO WRENCH: 6in. TRIPLEYE®66" (1676 mm) long with 6" (203 mm) Helix Tripleye.	Hubbell	6346		EA	1	28
Anchor, EXP (BUST) 8in,(5/8" & 3/4" Rod)	Hubbell	88135		EA	6	TBD based on client and conditions
Rod Expanding / Cross-Plate Anchor 5/8"X5' Thimbleye (Used with EXP anchor)	Hubbell	5315		EA	5	TBD based on client and conditions
Rod, Expanding / Cross-Plate Anchor. 3/4" X 8' TWINEYE. (Used with EXP Anchor	Hubbell	5358		EA	5	TBD based on client and conditions
Anchor, Rock, 1.75"X84" 3/4IN Rod	Hubbell	R384		EA	4	TBD based on client and conditions
Anchor, Rock, 1.75"X53" 3/4IN Rod	Hubbell	R353		EA	4	TBD based on client and conditions
STANDOFF, FIBERGLASS: 1.5"x12", COMMUN. 12" Medium Duty 15° Communication Standoff Bracket	Hubbell	1CSM12		EA	6	3
STANDOFF, FIBERGLASS: 1.5"X18", COMMUN. 18" Medium Duty 15° Communication Standoff Bracket	Hubbell	1CSM18		EA	6	3
LASHING WIRE (FT) 1200' coil (.40mm)	CENTRAL WIRE	LA-302045		Coil	6	175
LASHING WIRE (FT) 1600' coil (.38mm)	CENTURY WIRE	.038SS302ACW		Coil	6	6
CABLE GUARD, 2" X 10'Polyethylene cable guard 2.63" inside diameter x 10' long. Gray plastic, in a flanged "U" shape with 8 mounting holes per side. One end is belled to allow for overlap with an adjacent cable guard.	Hubbell	PSC2030548		EA	15	15
2" x 10' Belled U-Guard, Grey, Ribbed Surface. With UV Protection	Electrical Materials Company	PE2-UG10		EA	15	266
SCREW, LAG, 1/4in THD, 2in, w/WASHER Hex head lag screw with neoprene cushioned steel washer for securing composite cable guards.	Hubbell	PSC2050504		EA	500	4,822
MESSENGER 6M 1/4 EHS	Guardian	1'4"EHS		FT	5000	155,232
MESSENGER 6M 1/4 EHS (2nd option)	Bekaert	118994		FT	5000	Manual Entry
MESSENGER 6M 1/4 EHS (3rd option)	National	14AEHS-500R		FT	5000	Manual Entry
12 CT ARMORED FIBER: D-012-LA-8W-F12NS	COMMSCOPE	8107297/DB		FT	15500	251,999
24 CT ARMORED FIBER: D-024-LA-8W-F12NS	COMMSCOPE	8107298/DB		FT	15500	26,665
48 CT ARMORED FIBER: D-048-LA-8W-F12NS	COMMSCOPE	8107300/DB		FT	15500	19,819
96 CT ARMORED FIBER: D-096-LA-8W-F12NS	COMMSCOPE	8107303/DB		FT	15500	21,056
144 CT ARMORED FIBER: D-144-LA-8W-F12NS	COMMSCOPE	8107305/DB		FT	15500	38,706
144 CT Armored Fiber Yellow Tracer	COMMSCOPE	8108111/DB - D-144-LA-8W-F12YL		FT	15500	Manual Entry
96 CT Armored Fiber Yellow Tracer	COMMSCOPE	810009109/DB - D-096-LA-8W-F12YL		FT	15500	Manual Entry
144 CT ARMORED FIBER GREEN TRACER	COMMSCOPE	8108304/DB - D-144-LA-8W-F12GR		FT	15500	Manual Entry

Unit Description	Preferred Vendor	Part Number	Client Part #	UOM	Package Qty		Est Build Qty
96 CT ARMORED FIBER GREEN TRACER	COMMSCOPE	8107827/DB - D-096-LA-8W-F12GR		FT	15500		Manual Entry
24 CT ADSS Fiber: 024f,singlemode,Lose Tube, Med Load (Hut to Sub)	COMMSCOPE	S-24-LN-8W-F12NS/NFB		FT	10000		Manual Entry
Conduit, HDPE, 1.25 SDR 11, SmooothWall, ORG,1000# pull tape,8000'	Blue Diamond	BDI133OR-T10		FT	8000		168,590
12F SM loose Tube, Single Armor Single Jacket, NOVA / G.657.A1, OSP	STERLITE	MA-0012F-SN-01T-F-BU-US		FT	15500		251,999
24F SM loose Tube, Single Armor Single Jacket, NOVA / G.657.A1, OSP	STERLITE	MA-0024F-SN-02T-F-BU-US		FT	15500		26,665
48F SM loose Tube, Single Armor Single Jacket, NOVA / G.657.A1, OSP	STERLITE	MA-0048F-SN-04T-F-BU-US		FT	15500		19,819
96F SM loose Tube, Single Armor Single Jacket, NOVA / G.657.A1, OSP	STERLITE	MA-0096F-SN-08T-F-BU-US		FT	15500		21,056
96F SM loose Tube, Single Armor Single Jacket, NOVA / G.657.A1, OSP Green Strip	STERLITE	MA-0096F-SN-08T-F-BU-GR		FT	15500		Manual Entry
96F SM loose Tube, Single Armor Single Jacket, NOVA / G.657.A1, OSP Yellow Strip	STERLITE	MA-0096F-SN-08T-F-BU-YL		FT	15500		Manual Entry
144F SM loose Tube, Single Armor Single Jacket, NOVA / G.657.A1, OSP	STERLITE	MA-0144F-SN-12T-F-BU-US		FT	15500		38,706
144F SM loose Tube, Single Armor Single Jacket, NOVA / G.657.A1, OSP Green Strip	STERLITE	MA-0144F-SN-12T-F-BU-GR		FT	15500		Manual Entry
144F SM loose Tube, Single Armor Single Jacket, NOVA / G.657.A1, OSP Yellow Strip	STERLITE	MA-0144F-SN-12T-F-BU-YL		FT	15500		Manual Entry
Lubricant, Cable Pulling for fiber optic 5 GAL	Various	F-640		EA	1		4
Black Electric Tape, Log of 10 (88 tape)	3M	3M-88T-3/4x60		EA	10		620
FIBER MARKER - RHINO 72" 1 rail orange hybrid	BB MFG	RH1R-72		EA	1		281
Test Station Post Marker. (Locate fiber Marker Post)	William & Frick	TSP-EC-ELECTRIC-6"		EA	25		Manual Entry
Fiber Marker Post NON- Locatable fiber Marker Post	William & Frick	DM6		EA	25		Manual Entry
DUCT COUPLER	B&C	P2C-1.660		EA	100		620
PEDESTAL PenCell 23 9/19 x 19 1/16 x 12 3/16 base (96 and below)	Hubbell	AN14HDHB500009		EA	1		337
PEDESTAL PenCell 30 x 24 x15 Base (144 count)	Hubbell	AN20HDHB500009		EA	1		62
Flower Pot Assembly 9" Flower Pot Underground Assembly	Hubbell	PE9AHDH0000LW		EA	1		147
5' Reflective Fiberglass whip Marker to ID peds in Deep snow	Country Enterprises	73516 W--(R&W)-10801		EA	1		TBD based on client and conditions
BOX OB 24X36X24Box, polymer concrete, Tier 22, 24"x36"x24", Straight Wall, Open Bottom	Hubbell	PG2436BA24		EA	1		93
CVR BD HD 24X36X3/HW-FIBER OPTICS Cover, Polymer Concrete, Heavy Duty Tier 15, 24"x36"x3", 1-piece w/2 Bolts	Hubbell	PG2436HA0021		EA	1		93
BOX OB 30X48X36	Hubbell	PG3048BA36		EA	1		16
CVR BD HD 30X48X3/HW-FIBER OPTICS Cover, Polymer Concrete, Tier 15 , 30"x48", 1-piece, with 2 Bolts	Hubbell	PG3048HA0021		EA	1		16
OFDC-C12, SC/APC, 2 DropTap 10dB, 2 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/20-2T10-N-96		EA	1		42
OFDC-C12, SC/APC, 2 DropTap 12dB, 2 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/20-2T12-N-96		EA	1		47
OFDC-C12, SC/APC, 2 DropTap 14dB, 2 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/20-2T14-N-96		EA	1		41
OFDC-C12, SC/APC, 2 DropTap 15dB, 2 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/20-2T15-N-96		EA	1		45
OFDC-C12, SC/APC, 2 DropTap 17dB, 2 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/20-2T17-N-96		EA	1		42
OFDC-C12, SC/APC, 2 DropTap 19dB, 2 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/20-2T19-N-96		EA	1		40
OFDC-C12, SC/APC, 2 DropTap 21dB, 2 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/20-2T21-N-96		EA	1		9
OFDC-C12, SC/APC, 2 DropTap 4dB Terminating, 2 Adapters, No mounting kit, 96	COMMSCOPE	OFDC-C12-S2/20-2T04T-N-96		EA	1		6
OFDC-C12, SC/APC, 2 DropTap 5dB, 2 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/20-2T05-N-96		EA	1		4
OFDC-C12, SC/APC, 2 DropTap 7dB, 2 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/20-2T07-N-96		EA	1		11
OFDC-C12, SC/APC, 2 DropTap 8dB, 2 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/20-2T08-N-96		EA	1		23
OFDC-C12, SC/APC, 4 DropTap 10dB, 4 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/40-4T10-N-96		EA	1		5
OFDC-C12, SC/APC, 4 DropTap 11dB, 4 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/40-4T11-N-96		EA	1		21
OFDC-C12, SC/APC, 4 DropTap 13dB, 4 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/40-4T13-N-96		EA	1		31
OFDC-C12, SC/APC, 4 DropTap 15dB, 4 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/40-4T15-N-96		EA	1		17
OFDC-C12, SC/APC, 4 DropTap 17dB, 4 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/40-4T17-N-96		EA	1		21
OFDC-C12, SC/APC, 4 DropTap 7dB Terminating, 4 Adapters, No mounting kit, 96	COMMSCOPE	OFDC-C12-S2/40-4T07T-N-96		EA	1		3
OFDC-C12, SC/APC, 4 DropTap 9dB, 4 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/40-4T09-N-96		EA	1		12
OFDC-C12, SC/APC, 4 DropTap 19dB, 4 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/40-4T19-N-96		EA	1		21
OFDC-C12, SC/APC, 4 DropTap 21dB, 4 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/40-4T21-N-96		EA	1		14
OFDC-C12, SC/APC, 8 DropTap 11dB Terminating, 8 Adapters, No mounting kit, 96	COMMSCOPE	OFDC-C12-S2/80-8T11T-N-96		EA	1		1
OFDC-OFDC-C12, SC/APC, 8 DropTap 12dB, 8 Adapters, No mounting kit, 96	COMMSCOPE	OFDC-C12-S2/80-8T12-N-96		EA	1		1
OFDC-C12, SC/APC, 8 DropTap 14dB, 8 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/80-8T14-N-96		EA	1		2
OFDC-C12, SC/APC, 8 DropTap 15dB, 8 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/80-8T15-N-96		EA	1		3
OFDC-C12, SC/APC, 8 DropTap 17dB, 8 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/80-8T17-N-96		EA	1		4
OFDC-C12, SC/APC, 8 DropTap 19dB, 8 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/80-8T19-N-96		EA	1		3
OFDC-C12, SC/APC, 8 DropTap 21dB, 8 Adapters, No mounting kit, 96 splices.	COMMSCOPE	OFDC-C12-S2/80-8T21-N-96		EA	1		8
OFDC-C12 Closure, SPLICE ONLY, 48 Fiber	COMMSCOPE	OFDC-C12-NN/00-NN-N-96-US86		EA	1		16
OFDC-C12-1 Pole Mount Kit (One Piece)(1 for ea OFDC). OFDC-C12 Pole Mount Bracket Kit with 2 inch extension to accommodate cable slack.	COMMSCOPE	760250986		EA	25		484
OFDC - C12 Strand Mount Kit	COMMSCOPE	EM2200-001		EA	1		1
B BOND CLAMP Single stud with double nut per stud. For 0.5"–0.8" cable.	Hubbell	EM20B1		EA	10		7
0	Hubbell	EM8100410		EA	10		7
OFDC Armor Grounding Kit (One for each UG OFDC Splice Location) Box of 25	COMMSCOPE	760248511		BOX	25		16
Ground wire for OFDC	COMMSCOPE	EM0958-001		EA	1		30
POLE MOUNT FIBER STORAGE (H-Frames)--Default to this one if available	American Products	AM-3432-FSF		EA	2		62
POLE MOUNT FIBER STORAGE (H-Frames)--2nd choice if American Products not available	MULTILINK	065-058-10		EA	2		Manual entry
Aluminum 3 pc Pole mount Fiber Storage (H-Frames)--3rd choice if American Products and Multilink not available	Hubbell	BAFOB		EA	2		Manual entry
TYCO B SPLICE CLOSURE (96 count lateral)	COMMSCOPE	FOSC-450-B6-4-NT-O-TOV		EA	1		6
TYCO B SPLICE TRAY(24)	COMMSCOPE	FOSC-ACC-B-BTRAY 24		EA	2		24
TYCO D - SPLICE CLOSURE (144 count laterial)	COMMSCOPE	FOSC-450-D6-6-NT-0-D6V		EA	1		6
TYCO D SPLICE TRAYS (72)	COMMSCOPE	FOSC-ACC-D-TRAY-72-KIT		EA	2		12
Aerial strand mounting clamp and accessories (FOSC)	COMMSCOPE	FOSC-ACC-450-AERIAL-CLMP		EA	10		1
TYCO POLE MOUNT BRACKET(For FOSC Closure)	COMMSCOPE	FOSC-ACC-WALL_POLE		EA	2		6
SPLICE SLEEVES - TYCO 60 MM	COMMSCOPE	369305000		EA	1000		806
SPLICE SLEEVES - TYCO 45 MM (Used in OFDC's)	COMMSCOPE	SMOUV-1120-02		EA	1000		Manual entry
WIPES (280 wipes per box)(30 box = case) 8400 wipes	KIMBERLY-CLARK	S-8115		Case	1		1
BUDI S, Splitter Terminal includes 1 feeder splice tray, 2 1x16 FPS PnP module, 32 SC/APC slide adapters installed	COMMSCOPE	BUDI-SAJ32SM-MV		EA	1		Manual entry
BUDI S, Terminal includes 1 feeder splice tray, 1x32 FPS PnP module, 32 SC/APC slice adapters installed.	COMMSCOPE	BUDI-SAJ32SA-MV		EA	1		Manual entry
2" x 10' Galv Conduit	CONDUIT	2x10GALV		EA	1		1
FITTING, GUY, SIDEWALK, POLE END Sidewalk Guy Pole End Plate. Used where space is not available for standard guying. Attach with one 5/8" bolt and two 1/2" lag screws.	Hubbell	0501		EA	10		2
FITTING, GUY, SIDEWALK, GUY END Sidewalk Guy End Fitting, with one clamp. Used where space is not available for standard guying. Use with No. 0501 Pole End Fitting and 2" diameter pipe (Not included). Hot dip galvanized. RUS Listed.	Hubbell	0502		EA	10		2
DOWNLEAD CLAMP L - LAG SCREW KIT (3 per H-Frame) 4" lag W/washer	Hubbell	PSE4040212P		EA	1		168
DUCT SEAL	BLACKBURN	DX-1 1LB		EA	1		Manual entry
3000' POLYPULL LINE (3000 per bucket) (zip line)	DOTT	DWP3000		Bucket	1		6
Conduit, HDPE, 4.00" SDR 11, SmooothWall, ORG,1000# pull tape,8000'	Blue Diamond	BDI413OR		FT	800		7,688
3 IN. 3 CELL BLUE, 5300 FT. 9999 FT.	MAXCELL	MXE64283BL5300		FT	5300		Manual entry
FIBER CABLE OH MARKER *CUSTOMIZABLE* (Change Part number) Mounting to steel poles	ACP International	DN33		EA	1		1,030
.250"X 1 1/2 " SelfDrill Fenderhead W/O/W DYNA-COAT HWH #1	Dynamic Fastener	SN14X1.5"		EA	1000		1,000
4" BLUE TY WRAP	PANDUIT	PLT1M-M6		EA	100		354
7" BLACK TY WRAP	PANDUIT	BT2M-CO		EA	100		1,416
11" BLACK TY WRAP	PANDUIT	BT3I-CO		EA	100		1,416
99% ISOPROPYL ALCOHOL GALLON	RAINBOW	44029		EA	1		1
16 SOL HF-CCS /PE30/ 111# BS/High-Flex / Green 500' Reel (Tracer Wire)	William & Frick	744160532		FT	500		2,000
Aluminum Cable Damper. To be used in strong crosswind aeras to prevent movement and oscillation. 2 per Span.	Allied Bolt	9081		EA	1		manual entry--only used in high wind areas and on long spans (if used on power)
Ant Packets (Rainbow Fire Ant and Insect Killer 4oz package)	Rainbow	4480		EA	50		Manual entry
BAND, STAINLESS STEEL, 3/4in X 100ft Banding 3/4" x .03" x 100' used to secure brackets and equipment to poles. Skived edges to remove burrs. Use in conjunction with buckle PSC2080559.	Hubbell	C34201SSB100		EA	1		1
Buckle 3/4" used to secure brackets and equimpment to poles. Use with banding C34201SSB100.	MacLean	MBHB-58		EA	24		13

Unit Description	Preferred Vendor	Part Number	Client Part #	UOM	Package Qty		Est Build Qty
BRACKET, BANDING, GENERAL PURPOSE Bracket with standard 5/8" x 2" bolt	Hubbell	CHDBB1511H		EA	1		3
U-guard and Conduit Straps 2"(Concrete Poles)	MacLean	MBST-2		EA	24		3
Scru seal Kit. 25 Scru seal Racks, 25 Housings, Valu strap Band 3/8x.015x100'	Band-it	M21099		EA	25		1
CONDUIT PVC 4 INCH X 20 FT	Various	514020		EA	1		1,550
Conduit, HDPE 4.00" SDR 11, Smoothwall, Org,1000# Pull tape (Comes on 4" reels of 800')	Various	BDI413OR		FT	800		800
1/2"SDR11 Orange, 1250# pull Tape 5,000' Reels	Dura-Line	2031880810		FT	5000		Manual entry
1" SDR11 Orange, 1250# pull Tape, 5000' Reels	Dura-Line	10004433		FT	5000		Manual entry
12 CT NON-ARMORED FIBER D-012-LN-8W-F12NS	Fiber	8107357/DB		FT	15500		Manual entry
24 CT NON-ARMORED FIBER D-024-LN-8W-F12NS	Fiber	8107358/DB		FT	15500		Manual entry
48 CT NON-ARMORED FIBER D-048-LN-8W-F12NS	Fiber	8107360/DB		FT	15500		Manual entry
96 CT NON-ARMORED FIBER D-096-LN-8W-F12NS	Fiber	8107363/DB		FT	15500		Manual entry
144 Ct NON-ARMORED FIBER D-144-LN-8W-F12NS	Fiber	8107365/DB		FT	15500		Manual entry
SELF-SUPPORTING NON-ARMORED FIGURE-8 OUTDOOR DROP CABLE	CommScope	COMMSCOPE M-004-MN-8W-F04NS/109		FT	2000		89,300
Self-Supporting All-Dielectric Outdoor Drop Cable 4-CT FLAT DROP 2000' PUT UP	CommScope	COMMSCOPE O-004-DF-8W-F04NS		FT	2000		Manual entry
2F standard Flat, toneable.	CommScope	8108198/DB O-002-DF-HY-F02NS/8W002/1X24AWG		FT	2000		194,000
2 Count drop with locate wire 900 Micron	CommScope	810009422/DB CommScope O-002-DF-HY-F02NS 8G002/1X24AWG/IC29		FT	2000		Manual entry
2 Ct / 250 Micron Non-Tonable Flat Drop	CommScope	8107934/DB, O-002-DF-8W-F02NS		FT	5000		Manual entry
2 Ct Flat Drop, 250 Micron, NON-Tonable 2000 ft reels	Sterlite	FD-0004F-SN-01T-G-P1-99		FT	2000		Manual entry
2 count flat drop (Comes in 2000 ft spools)	Corning	002EB1-14101A20-2000FT		FT	2000		Manual entry
1/2 PVC SCHEDULE 40 10' Sticks	Various	PVC SCH40.5		EA	10		Manual entry
Schedule 40 Elbow, Size 1/2 Inch, Bend Radius Standard, Bend Angle 90 Degrees, Material PVC	Various	PVC UA9AD		EA	50		600
CP050 1/2" SCH 40 COUPLING	Various	PVC E940D		EA	150		1,350
CLMP050 1/2" PVC CONDUIT CLAMP	Various	PVC E977DC		EA	100		900
3/4" coupler	Various	CPL34PVF		EA	25		125
3/4" clamp	Various	5133737		EA	25		125
Charles Riser, Cane Stright	Charles	12-119-5		EA	1		420
Charles Riser, Cane Offset	Charles	12-119-2		EA	1		420
Conduit, HDPE, .75 SDR 11, SmoothWall, ORG,1000# pull tape,5000'	Various	P075SDR11-ORANGE (Blue Diamond)		FT	5000		5,000
Blue Diamond Micro Duct 8/10mm Outdoor	Various	2021855510 (Blue Diamond)		FT	2000		2,000
CRIMPLOK(TM) + CONN SC/APC SM 900UM WITH PS TOOL	3M	3M 8700-PS/APC		EA	0		0
PIGTAIL, SM SIMPLEX, 3MM SCAPC TO BARE FIBER 24IN	TVC	TVC AV1SCAPC1324Y		EA	1		1,200
Surelight® Field Installable Connector - SC/APC, Singlemode, 250um/900um	Surelight	066-025-10		EA	2		1,200
Corning NPC+ 8830APCFSC (Mechanical drop Connector)	Corning	Corning NPC+ 8830APCFSC		EA	0		0
WIREVISE - Auto Deadend for Messenger Figure 8 Drop	MacLean	MPS 5058		EA	100		400
60MM SPLICE SLEEVE	CommScope	TYCO 369305000		EA	1000		1,000
45MM SPLICE SLEEVE	CommScope	Commscope SMOUV-1120-02		EA	1000		3,000
FIS FUSION PROTECTION SLEEVE 40MM	FIS	FIBINST F1100240C-50		EA	50		1,200
Splicing Drops (Drop Repair)	CommScope	FDSC-GATOR-12F-T		FT	50		50
DROP WIRE CLAMP FIBER CABLE (Wedge Clamp for flat drop)	Maclean Senior Industries	SENIOR SI-0972		EA	100		500
HOOK DRIVE (J Hook)	MacLean	MPS J3318		EA	1		400
O SPAN CLAMP CROSSES TO 4075 ALLIED ALSO *	Belden	BELDEN 2700860		EA	100		300
3-3/4" P HOUSE HOOK	Allied Bolt	ALLIED BOLT 921		EA	200		600
BRACKET, SERVICE DEADEND (Power Mast Attachment)	Hubbell	HPS C2060169		EA	1		125
1" X 10' FLANGED RISER GUARD	**Hubbell**	**PSC2030546**		**EA**	**3**		**90**
10 X 1-1/2 Hex Washer Head Slotted/Phillips Sheet Metal Screws	Dottie	DOTTIE HWSMS10112		BOX	1600		1
10 X 1 Hex Washer Head Slotted/Phillips Sheet Metal Screws	Dottie	DOTTIE HWSMS101		BOX	3200		1
10 x 2" Hex Washer Head Slotted/Phillips Sheet Metal Screws	Dottie	DOTTIE HWSMS102		BOX	1600		1
16 SOL HF- CCS PE30 111#BS High Flex Green 2500' Reel	William & Frick	744160547-CX		Reel	2500		1
POST, MOBILE HOME, 36 IN	Emerson	EMERSON MHP36		EA	10		10
Tapered Anchors with Collar (Red)	Dottie	DOTTIE 22 8-10-12		BOX	3200		1
3/16" X 1-3/4" Tapcon Hex head Masonry Fastener W/Drill Bit	TAPCON	3141407		BOX	1600		1
Cable Tie, Length of 139.7mm (5.5 Inches), Width of 3.56mm (0.14 Inches),	T&B	TB TY524MX		BAG	100		60
Cable Tie, Length of 185.67mm (7.31 Inches), Width of 4.67mm (0.184 Inches),	T&B	TB TY25MX		BAG	100		30
E DROP WIRE CLAMP 1PR (Attach drop to pole)	Belden	BELDEN 23-80361		BOX	2000		2
OWB-S-SO-S24-NN-W (NIDS)	CommScope	Commscope NID		EA	1		600
NID - Coyote	PLP	STP-GG-3-1-2-1		EA	1		1
MDU , Box Splice Only	CommScope	BUDI-FS-SPNNNN-US00		EA	1		Manual entry
Skirt for MDU Box	CommScope	BUDI-S-SKRT-24		EA	2		Manual entry
1 port SC-APC SFU NID (two SC adapter frames; one SC-APC Adapter)	PPC	SFIT-FK01AJN-004		EA	1		Manual entry
PRIMEX WALL BOX - NID 125-1790(P700 Hex W/FTS,SC/APC	PRIMEX	125-1790		EA	1		Manual entry